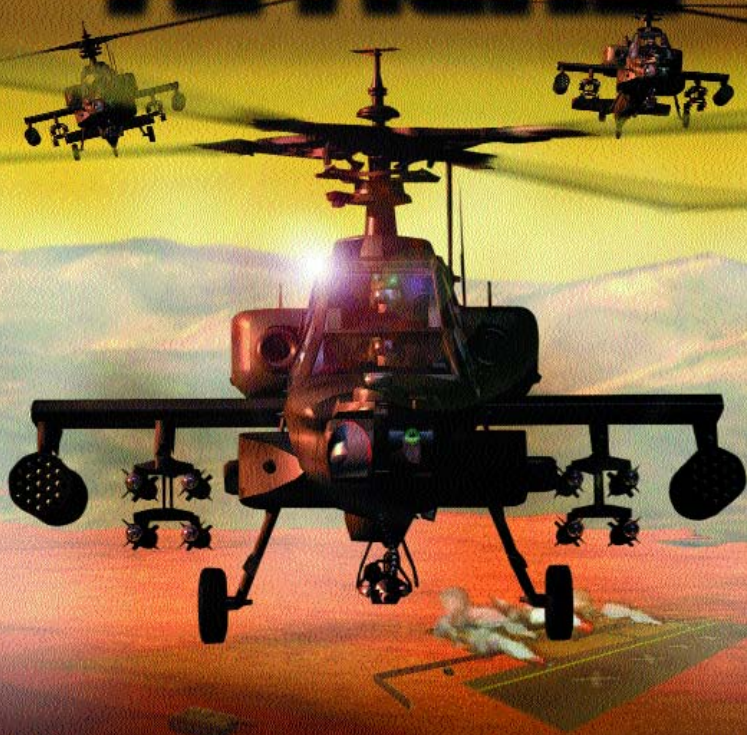


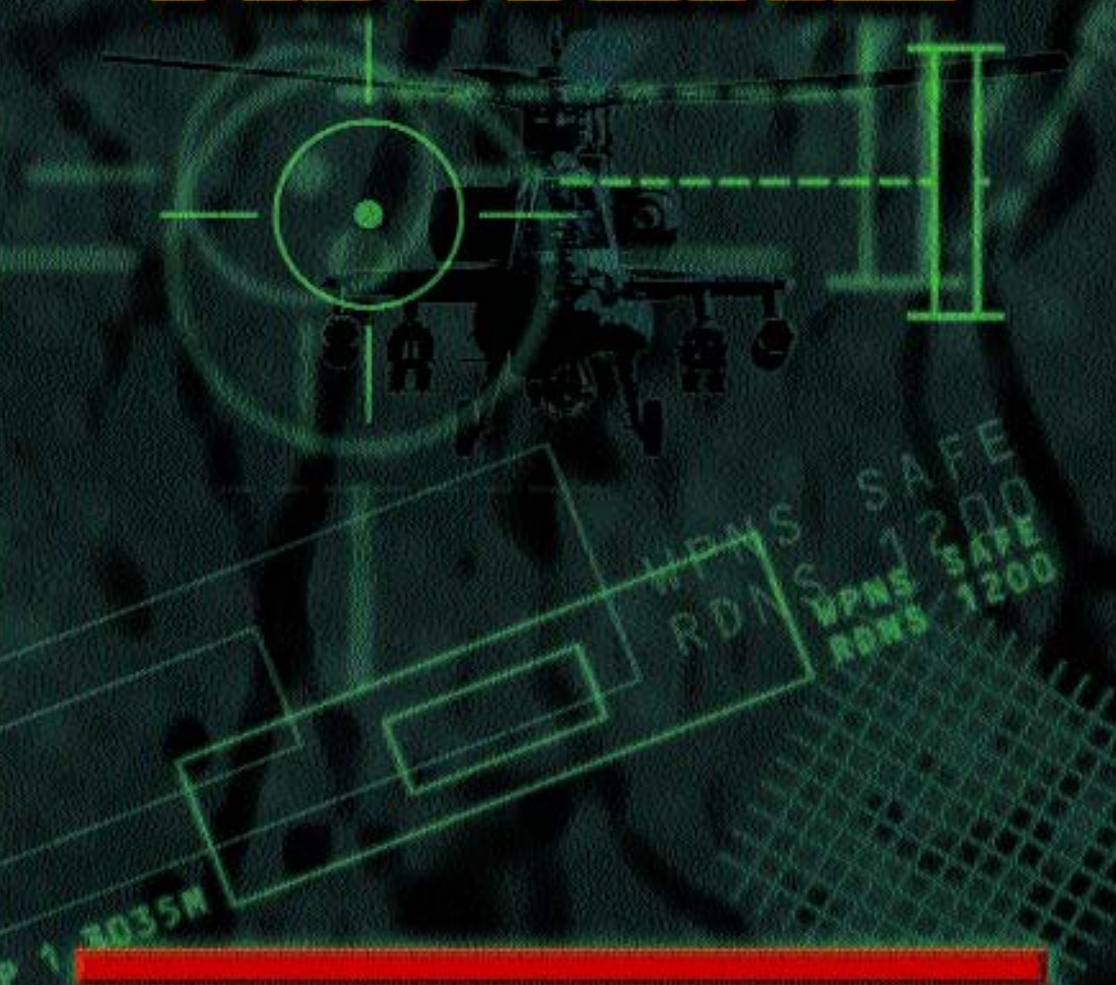
# TEAM APACHE



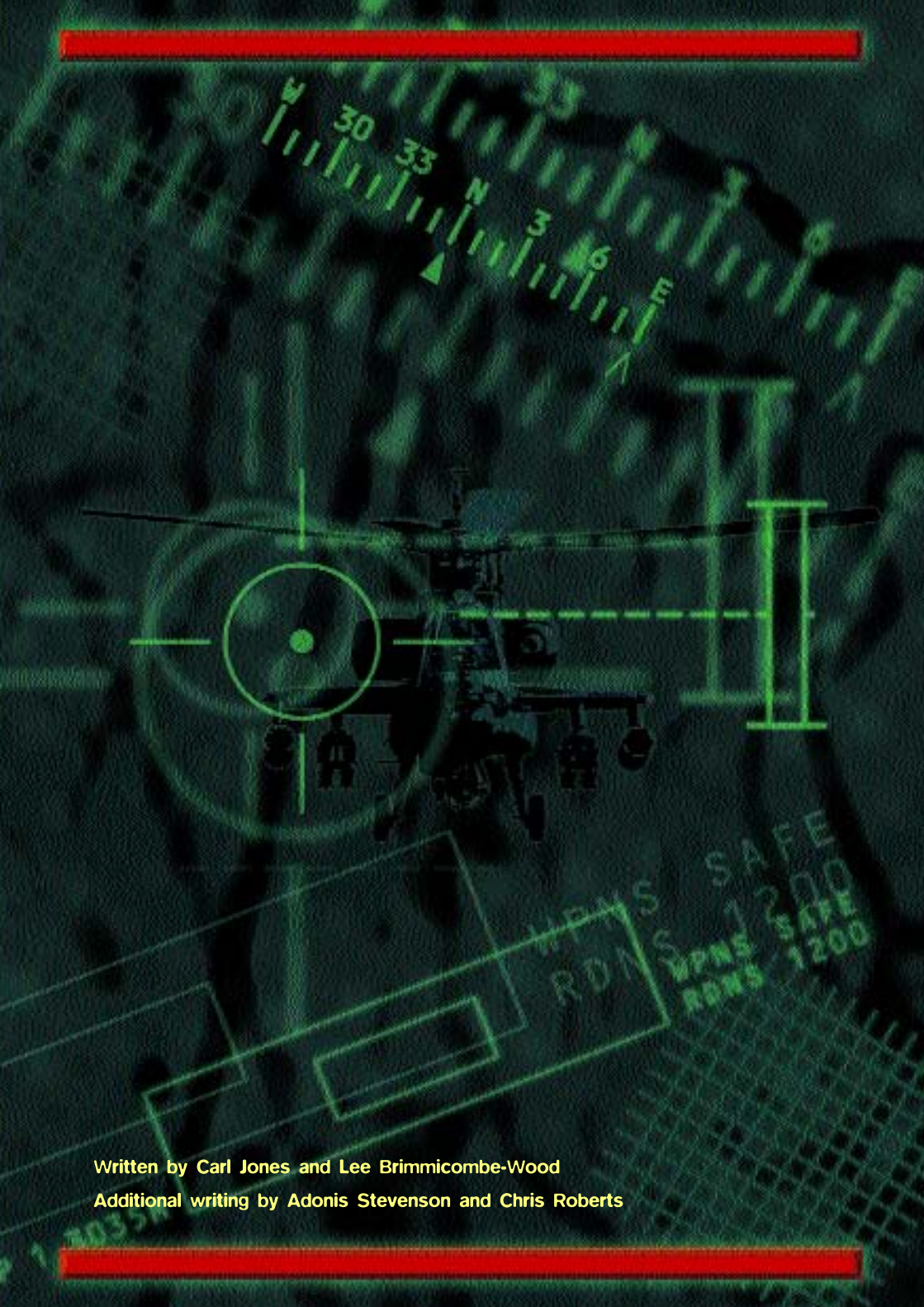
**FLIGHT MANUAL**

---

# TEAM APACHE







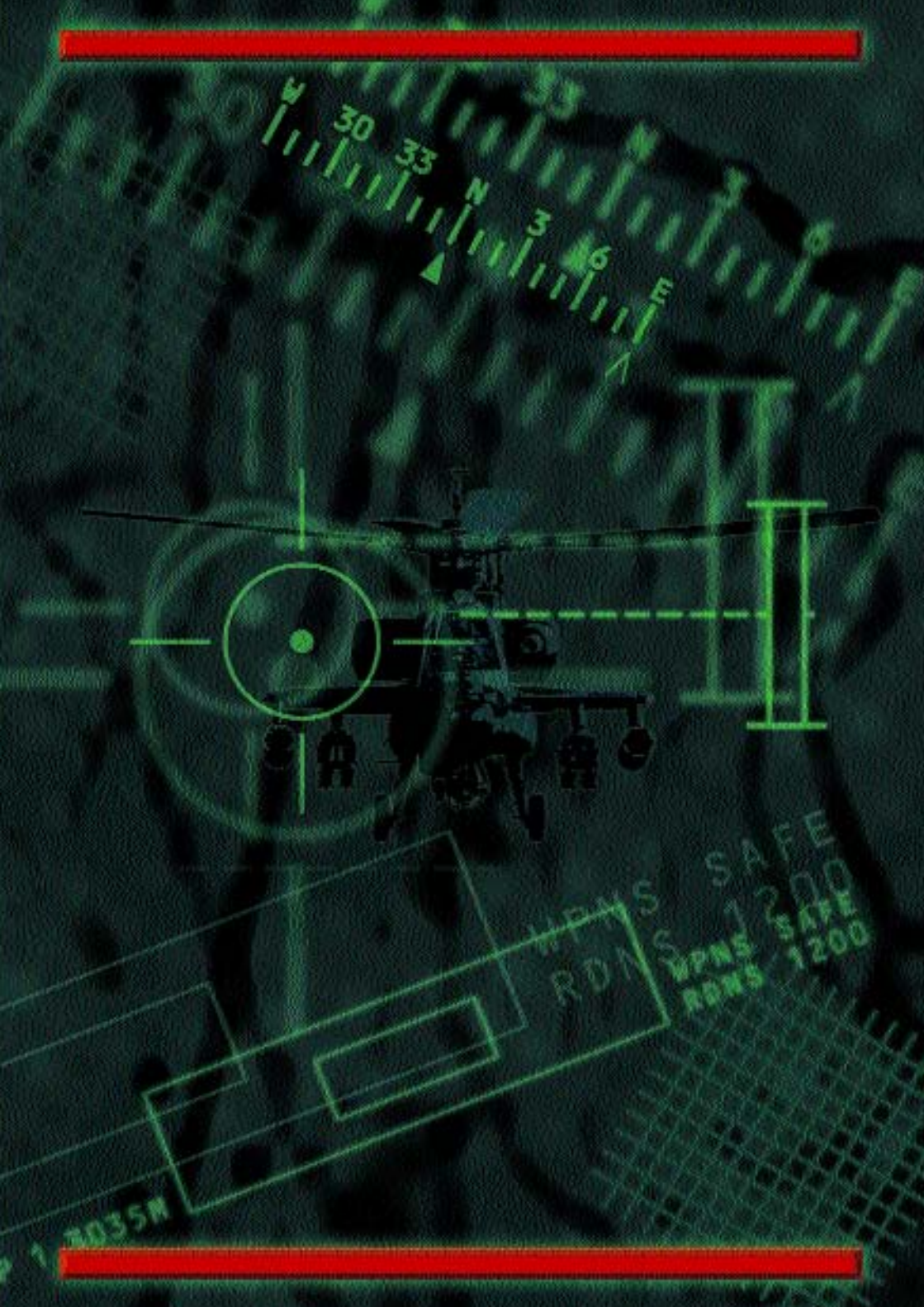
Written by Carl Jones and Lee Brimmicombe-Wood

Additional writing by Adonis Stevenson and Chris Roberts



<b>1 INSTALLATION</b> .....	<b>7</b>	<b>12 SETTINGS</b> .....	<b>62</b>
1.1 Installation in Windows® 95 .....	7	12.1 Graphics Options .....	62
1.2 Troubleshooting .....	7	12.2 Sound Options .....	62
<b>2 GAME SETUP AND CONFIGURATION</b> .....	<b>8</b>	12.3 Game Options .....	63
2.1 Starting the Game .....	8	12.4 Flight Model Options .....	63
2.2 Graphics Configuration .....	8	<b>13 CAMPAIGN</b> .....	<b>65</b>
<b>3 INTRODUCTION</b> .....	<b>9</b>	13.1 Colombian Campaign Summary .....	65
<b>4 QUICK START</b> .....	<b>10</b>	13.2 Latvian Campaign Summary .....	67
4.1 Instant Action .....	10	<b>14 DESIGNER'S NOTES</b> .....	<b>71</b>
4.2 Flying the Helicopter .....	10	<b>15 APPENDIX ONE -</b>	
4.3 Weapons .....	11	<b>RECOGNITION MANUAL</b> .....	<b>72</b>
4.4 Further Controls .....	11	15.1 Friendly Forces .....	72
<b>5 AH-64A APACHE</b> .....	<b>13</b>	15.2 Enemy Forces .....	84
5.1 History .....	13	<b>16 APPENDIX TWO -</b>	
5.2 Technical Specifications .....	14	<b>MISSION CREATOR</b> .....	<b>93</b>
<b>6 TEAM APACHE SCREENS</b> .....	<b>16</b>	16.1 Starting Mission Creator .....	93
6.1 Main Menu .....	16	16.2 Adding Items to The Mission .....	93
<b>7 FLIGHT TRAINING</b> .....	<b>18</b>	16.3 Creating Mission ACPs .....	94
7.1 Training Lessons .....	18	16.4 Creating Groups of Units .....	94
7.2 SOPs .....	19	16.5 Place Enemy Helicopters .....	97
<b>8 TEAM APACHE GAMES</b> .....	<b>20</b>	16.6 Setting Support .....	97
8.1 Instant Action .....	20	16.7 Set Weapon Loads .....	97
8.2 Combat Missions .....	20	16.8 Setting Scores .....	97
8.3 Campaign Game .....	26	16.9 Setting Briefings .....	98
8.4 Network .....	34	16.10 Saving Team Apache Missions .....	98
<b>9 APACHE COCKPIT</b> .....	<b>39</b>	16.11 Mission Creation Tips .....	98
9.1 IHADSS .....	39	<b>17 APPENDIX THREE - CONNECTING</b>	
9.2 2D, 3D, Look Down Cockpit Displays .....	44	<b>MULTIPLAYER GAMES</b> .....	<b>100</b>
9.3 Radar Warning Receiver .....	48	<b>18 APPENDIX FOUR -</b>	
<b>10 APACHE CONTROLS</b> .....	<b>49</b>	<b>NATO SYMBOLOGY KEY</b> .....	<b>101</b>
10.1 Principles of Helicopter Flight .....	49	<b>19 APPENDIX FIVE - GLOSSARY</b> .....	<b>102</b>
10.2 Flying the Apache .....	50	<b>20 APPENDIX SIX - SUMMARY OF ALL</b>	
10.3 Weapons Controls .....	52	<b>KEYS AND FUNCTIONS</b> .....	<b>104</b>
10.4 Camera Controls .....	55	20.1 Flight Controls .....	104
10.5 Other Controls .....	55	20.2 Weapons Controls .....	104
10.6 Team Flying and SOPs .....	56	20.3 Camera Controls .....	105
<b>11 FARPS</b> .....	<b>61</b>	20.4 Other Controls .....	106
		20.5 Team Flying and SOPs .....	107
		<b>CREDITS</b> .....	<b>108</b>
		<b>TECHNICAL SUPPORT</b> .....	<b>110</b>







# 1 INSTALLATION

Before you play Team Apache, you must install the game files onto your computer's hard drive. In Windows 95, Team Apache installs on your hard drive using its own install program.

## 1.1 Installation in Windows 95

If your computer is running Windows 95 (or later) simply follow the instructions below:

First close all programs that are currently running (these should be those which appear in the Windows 95 task bar). Place the Team Apache CD in your CD ROM drive. Close the door and wait for a moment. The Team Apache Start-up Launcher will automatically activate; click on the Install Game button to commence the install. The install program will direct your installation. Follow the instructions on screen.

## 1.2 Troubleshooting

Before contacting Technical Support please refer to the 'D:\HELP.HLP' file included on the program CD. This file details useful Trouble Shooting Tips together with notes relating to any late changes made to the program. To view the file please follow the instructions below.

Insert the CD into your CD ROM drive (Cancel/Close any AutoRun screen that may appear). Click on the 'START' button (normally on the bottom left of your screen) followed by 'RUN...'. At the prompt type D:\HELP.HLP and click OK. (D should be replaced by your CD ROM drive letter)



## 2 GAME SETUP AND CONFIGURATION

### 2.1 Starting the Game

Once you have successfully installed the game files and set-up Team Apache for your PC preferences you are ready to play. To start Team Apache, insert the CD or press the Team Apache icon from the Windows 95 Start® button. This will bring up the Team Apache Startup launcher.

From here you have several options:

**Play Team Apache** - this will commence a new game.

**Install Game** - this will install the game if not already installed.

**Install DirectX** - this will install DirectX on your computer.

**Uninstall Game** - this will remove Team Apache from your computer.

**Mission Creator** - this will open the Mission Creator tools for creating your own Team Apache missions.

**Calibrate Joystick** - this will take you to the Game Controllers control panel to select and calibrate your joystick.

**Change Video Driver** - this will take you to the Select Driver screen. Note that this button does not become available until you have run Team Apache at least once; this allows the program to properly check your computer's configuration

**View Read Me** - look at the Read Me text file; this contains troubleshooting information on the game.

**Exit** - exit Team Apache.

### 2.2 Video Drivers

When you click on Change Video Driver in the Start-up launcher, this brings up the Select Driver window. The computer checks to see which driver and hardware options you have installed and lists them in the window. You can change drivers if you wish by selecting from one of the alternatives listed here. If you have an improved performance graphics card, you may have to select the native drivers for the card manually from this screen, as the computer does not always select the optimum graphics configuration.



### 3 INTRODUCTION

Thank you for purchasing Team Apache, the latest helicopter simulation from SIMS and Mindscape.

Team Apache is a high action, flight simulation of the Boeing AH-64A Apache attack helicopter, set in three campaign and training areas: Latvia, Colombia and Utah. You will play the commander of a U.S. Army aviation company team, comprising six Apaches, support personnel and aircrew.

As commander, you will have the responsibility to plan and execute missions. You will have to look after the members of your squadron, and manage your limited resources to ensure the efficient operation of your team. In missions you will fly with your lead pilot and give orders to your team while flying at low level, under enemy fire!





## 4 QUICK START

While there's a great deal of depth to Team Apache, it is possible to dive straight into the game and throw yourself into the thick of the fighting. This part of the Flight Manual describes how to set up the game so that you can get into the game and immediately start plugging bad guys!

### 4.1 Instant Action



To get into the game quickly we recommend the Instant Action missions.

When the game has loaded, select Instant Action from the main menu. Another menu screen will be displayed offering you the option to play in either Colombia or Latvia. In the Colombian Mission the paramilitary enemy forces have less capable equipment than the Russian Army in Latvia, so this mission is slightly easier. Click on one of the buttons to begin flying a mission.

### 4.2 Flying the Helicopter

When your mission starts, you will be sitting in your Apache on an allied airfield. Press the **E** key (Engines) to start your engines, then **M** (Master Arm) to arm your weapons. Increase the throttle on the joystick to take off. (Use the + and - keys on the keyboard if you do not have a throttle).

The throttle represents the collective, which controls the lift the rotors generate. If you are in level flight increasing the collective will cause the helicopter to climb. To move forwards, pitch your nose down by pushing your joystick forwards (or by pressing Up on the cursor keys on the number pad). This will make your rotors tilt and translate some of the lift into forward power. As some of the lift is now pulling you forwards, there is less to keep you in the air and you will begin to lose height. You can compensate for this by increasing the collective further.

The joystick (or cursor keys on the number pad, if you have no joystick) pitch the helicopter forwards and backwards, and bank it left and right. To yaw the helicopter (spin around the rotor axis), use your joystick's rudder control, if you have one, or use the < and > keys.



## 4.3 Weapons

To select weapons, use the secondary fire button on your joystick (if you have one) or press the Backspace key. To fire the currently selected weapon, press the fire button (or the Spacebar).

When you select weapons, they will cycle through the following order:

- 1 \_ 30mm chain cannon
- 2 \_ Hydra unguided rockets
- 3 \_ Laser-guided Hellfire anti-tank missiles
- 4 \_ Infrared-guided Air-to-Air Stinger Missiles

## 4.4 Further Controls

The controls described above are all you need to dive into your first Instant Action mission. However, to do well in Team Apache you have to master all the controls. Here's a brief description of some functions you might want to try out in the Instant Action missions.

### 4.4.1 Weapon Keys

- J** \_ Increases your current weapon's burst/salvo size (if chain gun or Hydra)
- K** \_ Decreases your current weapon's burst/salvo size (if chain gun or Hydra)
- Delete** \_ Order co-pilot gunner to remain tracking the current target
- Insert** \_ Order co-pilot gunner to track next target
- C** \_ Dispense chaff
- F** \_ Dispense flares

### 4.4.2 Camera Controls

- F1** \_ Cockpit view with IHADSS
- F2** \_ Cycles through 2D, 3D and full screen cockpits
- F3** \_ Chase camera
- F4** \_ Wing view camera (press again to swap between right and left wing cameras)
- F5** \_ Pole camera
- F6** \_ Drop controllable camera
- F7** \_ Fly-by camera
- F8** \_ Friendly camera view
- F9** \_ Enemy camera view
- F11** \_ Missile chase view
- F12** \_ In-flight map
- PgUp** \_ Zoom in (only works in when in F5, F8 & F9 cameras)



**PgDn** \_ Zoom out (only works in when in F5, F8 & F9 cameras)

**Ctrl+I** \_ Infrared toggle for external camera views

Cursor keys move your head around in cockpit view.

Cursor keys rotate the camera in F5, F6, F8 and F9 views.

### 4.4.3 Other Controls

**A** \_ Turn on auto-pilot mode

**H** \_ Turn on bob-up mode

**Tab** \_ Turn off auto-pilot or bob-up

**D** \_ Look down cockpit

**V** \_ Cockpit light toggle

**I** \_ Toggle infrared sensors on/off

**PgUp** \_ Magnify cockpit infrared view

**PgDn** \_ Zoom out cockpit infrared view

**O** \_ Options screen

**Ctrl+G** \_ Screen grab (this writes a .PCX graphics file into your game directory)

**Escape** \_ End mission



## 5 AH-64A APACHE

### 5.1 History

The Boeing AH-64A Apache was designed in response to lessons learned in Vietnam. There, the helicopter gunship concept had proven itself, but the existing aircraft, such as the custom modified Bell UH-1 and the AH-1 Huey Cobra had proved themselves deficient in several areas, particularly engine power, protection and armament. The requirement for a gunship capable of fighting in the more deadly environment of NATO's Central Front in Europe led, in the mid-1970's, to a requirement for an Advanced Attack Helicopter (AAH). In 1976 a Hughes design was chosen from a number of fly off contenders and the final aircraft, now a McDonnell-Douglas machine after the purchase of Hughes Helicopters, entered service in 1984. (The Apache would later become a Boeing aircraft in the 1990's.)

The new machine had to meet a stringent AAH requirement. It had to be able to fly in day, night and adverse weather conditions. It also had to be capable of surviving impacts from light anti-aircraft systems, such 0.50 calibre machine gun rounds, the 23mm shells of the infamous Russian ZSU-23-4, and shoulder-launched SAMs such as the SA-7 missile encountered in Vietnam. Manoeuvrability for nap-of-earth (i.e. ground-hugging) flight was essential, as was crash-survivability for the valuable crew. The new helicopter, the AH-64A Apache, met all these requirements and more.



The Apache is powered by two General Electric turboshaft engines, giving speeds up to 227 mph and endurance for a combat radius up to 260 nautical miles. Its powerful weapons suite includes the M230 chain gun for the destruction of unarmoured and light armour targets; the Hellfire laser guided anti-tank missile; the 2.75 inch Hydra rocket, available in High Explosive and Multi-Purpose Sub-Munition flavours; and the Stinger infrared air-to-air missile for taking on enemy air threats.

The aircraft is also equipped with complex navigation and sensor systems that enable it to operate in all weather conditions, and at night with the aid of the Pilot Night Vision System, or PNVIS. All these systems output directly to the pilot's IHADSS helmet mounted display and sight system, which reacts to the crew's head movements and aligns the sensors and gun systems to point along the gunner or pilot's line of sight.

The Apache is one of the most manoeuvrable helicopters in service, with an impressive roll rate and the ability to pull g-loads that permit it to operate under the stresses of low-level high-speed flight.





Though the Apache was combat-tested in Panama, its first significant combat challenge came in the Gulf War, where it was used extensively in support of ground forces in Kuwait and Iraq. It became famous for a number of actions in the Gulf, including one of the very first attacks of Operation Desert Storm when 8 Apaches, forming the 101st Airborne Division's 1st Battalion, destroyed key Iraqi air-defence radar bunkers, opening a path for the Allied air assault.

On the 24th-28th February 1991, the Apache was used in the largest ever helicopter assault in history, when 2,000 men of the US 101st Airborne Division descended on Salman airfield, 50 miles inside Iraq, where a forward refuelling point (FARP) was established for further operations. Initially, Apaches were used as an escort to the Chinook and Blackhawk helicopters transporting the Division across the border. Once the FARP was set up, the Apaches were let loose to launch devastating attacks on enemy emplacements. This operation showed the Apache's versatility in land operations and its ability to operate deep in enemy territory, with minimal support.

The sheer success of this operation surprised everyone, with some 5,500 Iraqi POWs taken in the first ten hours of the offensive. At one point the 101st Airborne Division's 1st Battalion attacked an Iraqi infantry unit using cannon and rockets. The Iraqi force broke under the weight of fire and 476 soldiers surrendered to the Apache force; the first time in history that any helicopter unit had, on its own, defeated an enemy ground force of such magnitude. This historic battle proved the power of the attack helicopter beyond any doubt.

Throughout the Gulf War, only two Apaches were lost: one in a non-combat mishap, the other a suspected combat loss. These incredibly light casualties have cemented the reputation of the aircraft and shown that a correctly employed attack helicopter formation is a 'force multiplier' of immense value.

Some 930 AH-64 Apaches have now been built, and are in service with six countries.

## 5.2 Technical Specifications of the Boeing Apache AH-64A

### Dimensions:

Length overall, rotors turning . . . . .	58 ft 3 in (17.76 m)
Main rotor diameter . . . . .	48 ft (14.6 m)
Tail rotor diameter . . . . .	9 ft 2 in (2.79 m)
Height over tail fin . . . . .	11 ft 6 in (3.52 m)
Height over main rotor . . . . .	12 ft 7 in (3.84 m)



**Weights:**

Empty . . . . .	10,760 lb (4,881 kg)
Primary mission gross . . . . .	14,445 lb (6,552 kg)
Max take-off . . . . .	21,000 lb (9,525 kg)

**Performance:**

Never exceed speed . . . . .	197 kt (365 km/h)
Max cruising speed . . . . .	160 kt (296 km/h)
Max vertical rate of climb . . . . .	2,500 ft/min (762 m/min)
Service ceiling . . . . .	21,000 ft (6,400 m)
Low altitude g limits . . . . .	+3.5 to -0.5
Max range, internal fuel . . . . .	260 nm (482 km)

**Power Plant:** two General Electric T700-GE-701 turboshafts

Max continuous power (ea.) . . . . .	1,510 shp (1,126 kW)
Intermediate power (ea.) . . . . .	1,696 shp (1,265 kW)
Emergency rating (ea.) . . . . .	1,723 shp (1,285 kW) for 150 secs

**Weapons Load:**

Four weapons stations, each capable of carrying four AGM-114 Hellfire ATGM, or one M261 19-tube launcher for the Hydra FFAR. Two additional weapon stations, each capable of carrying one FIM-92 Stinger AAM.



## 6 TEAM APACHE SCREENS

The Team Apache interface screens are easy to use. Simply move the mouse pointer and click on the relevant button or area of the screen to make your selection.

### 6.1 Main Menu

As shown below the Main Menu screen contains several options for playing and configuring Team Apache.



#### 6.1.1 Training

This button takes you into the Training missions, based in Utah, where you can learn to fly and flight in the Apache. See section 7 for a full description of training.

#### 6.1.2 Instant Action

This button takes you to the fast-paced arcade-style Instant Action missions. See section 8.1 for more details.

#### 6.1.3 Combat Missions

This button takes you to the stand-alone Combat missions, where different mission profiles can be flown. See section 8.2 for further details.

#### 6.1.4 Campaign

This button starts a full real time Campaign game. See section 8.3 for further details.

#### 6.1.5 Network

This button will allow you to start or enter a network game. See section 8.4 for the full network gaming guide.

#### 6.1.6 Options

This button brings up the options screen for graphics configuration. See section 12 for more details.

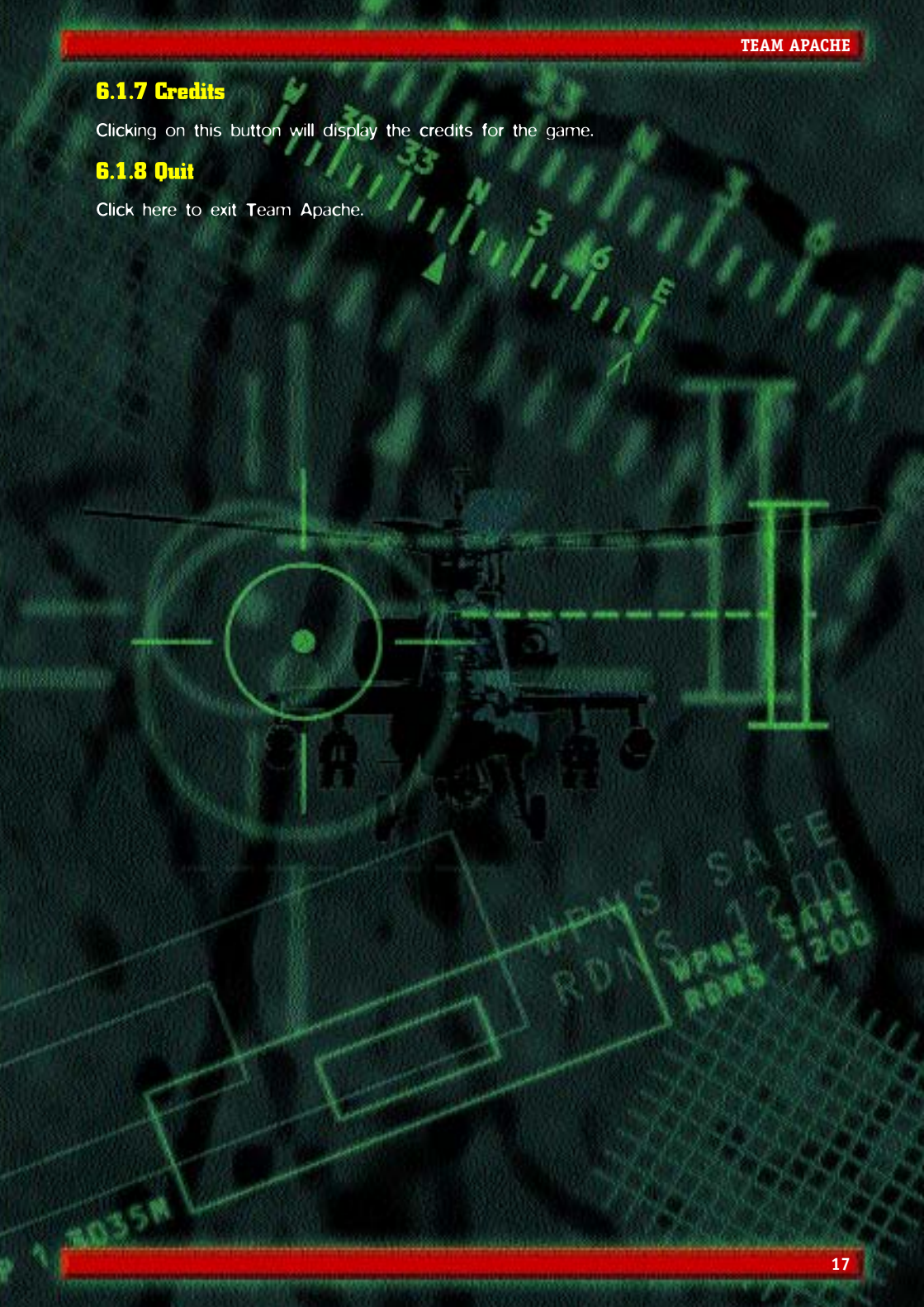


### 6.1.7 Credits

Clicking on this button will display the credits for the game.

### 6.1.8 Quit

Click here to exit Team Apache.





## 7 FLIGHT TRAINING

No one ever said flying a helicopter was easy, so don't expect to be able to master Team Apache in minutes. Having said that, the controls for the helicopter are straightforward, and with practice should become instinctive. We've found that most rookies can control, fly and fight with the Apache after just a handful of training missions.

In the game are six training missions. We recommend you fly these first of all. To access these, click on Training in the main menu. The Training Options screen will appear, as shown below:



### 7.1 Training Lessons

Click here to enter Training Mode and select a mission. The first time you click Training Mode only the first mission, Take Off, will be allowed. You won't be able to fly any of the later missions until you've completed all the earlier ones. To complete the training course you have to fly all the training missions, in order.



Your instructor pilot for the training sessions is Master Warrant Officer McNabbit. He will talk you through your flight and weapons instruction, and tear you a strip if you foul up!

**Training missions run as follows:**

#### 7.1.1 Take Off

This mission will teach the rudiments of the Apache helicopter. MWO McNabbit will explain the layout of the cockpit and the IHADDs display, before getting you to practice with the basic flight controls.



### 7.1.2 Landing

This mission will teach you the basics of hovering, using the Bob Up mode, and landing.

### 7.1.3 Navigation

This mission will train you in the use of Aircraft Control Points and the navigational aids.

### 7.1.4 Unguided Weapons

This mission will teach you the basics of using the M230 chain cannon and the Hydra unguided rockets. MWO McNabbit will guide you to a firing range to practice.

### 7.1.5 Guided Weapons

This mission teaches the rudiments of engaging and destroying enemies with the Hellfire anti-tank missile and Air-To-Air Stinger missile.

### 7.1.6 Graduation Mission

This is the final training mission, which will teach you to operate in formation, and how to best utilise your team members. The mission finishes with an engagement against targets on a live-fire range. Completion of your training will depend on your success in this mission.

## 7.2 SOPs

Click [here](#) to view the Standard operating procedures screen, from which you can edit and set new formations for your Team to fly in. For more information on SOPs, see section 10.6.4



## 8 TEAM APACHE GAMES

Team Apache is three games in one, with the depth and realism of the simulation dependent on which game you play. The options are: Instant Action, Combat Missions and the Campaign, in respective order of complexity and realism. There is a fourth game, the Network Game, for multiple players who are connected by a Local Area Network or the Internet.

### 8.1 Instant Action

As described in the Quick Start section, the Instant Action missions are high action arcade-style missions, where you will be confronted by numerous threats.

When you click on the Instant Action button you will be given the option to fly in Colombia or Latvia. The Colombian mission pits you against Marxist narco-guerrillas, bandits and paramilitaries. Generally these enemies consist of low threat units, such as infantry with small arms and machine-gun-armed Jeeps, but watch out for shoulder-launched SAMs! The Latvian mission will pit you against the forces of the Russian Army. This is a much more dangerous area to fight in, as the enemy are equipped with mobile SAMs and Anti-Aircraft Artillery, as well as tanks, light armour and enemy helicopters.

### 8.2 Combat Missions

The Combat Missions are based on typical mission profiles for an Apache company team, and much more realistic than the Instant Action missions.

Once you have clicked on the Combat Missions button on the Main Menu you will be shown the following screen:



In the Combat Missions screen, you can customise your mission using the options menu to the right. Click on the buttons to change the options; when you are satisfied, click the Fly button to begin the mission. Options are as follows:

#### 8.2.1 Mission Type

By clicking on Mission Type you are offered a number of different missions to fly. These are:

**Deep Attack** - these missions are to assault enemy forces deep in their own territory, usually to destroy a specific ground target or targets.

**Air-to-Air** - these missions require you to find and engage enemy air targets.



**Air Assault Escort** - these missions entail escorting friendly troop transports to a landing zone, where they can land the infantry.

**Search and Rescue** - these missions are to find downed aircrew, take out any nearby threats, and cover a rescue helicopter as it lands and picks up the men.

**SEAD (Suppression of Enemy Air Defences)** - on SEAD missions the Apache is called on to attack enemy air defences, usually to permit friendly air units a free run at a defended target.

**Route Recon** - these missions are armed reconnaissance missions, in which the Apache is to follow a set flightpath and deal with any enemies they find.

**Recovery Escort** - this mission is similar to the Search and Rescue mission, except that you are escorting a recovery helicopter on a mission to pick up a downed Apache. On this occasion you must rescue the downed helicopter.

**Search and Destroy** - these missions are generally to seek out specific enemy targets and destroy them.

### 8.2.2 Weather

By clicking on the buttons to either side of the weather bar, you can choose the conditions for your flight. The conditions are as follows:

**Clear** - this is perfect daytime weather, with the sun shining and little cloud cover.

**Fine** - some cloud cover.

**Overcast** - poor light and ten tenths cloud cover.

**Rain** - overcast and constant rainfall.

**Storm** - overcast with rain, thunder, and lightning.

**Incoming Storm** - like the storm setting, however, the storm is slowly drifting across the combat area. The rain will start and vary in intensity.

**Snow** - overcast and constant snow.

**Fog** - select to have fog. Visibility is seriously hampered

### 8.2.3 Difficulty

There are 3 difficulty levels in the combat missions: Easy, Medium and Hard. The Easy and Hard options alter the vulnerability of your Apache helicopter. In Easy mode your helicopter is almost invulnerable to small-arms fire, and light AAA has reduced effect. In Hard mode, your helicopter is far more vulnerable to enemy attacks.

### 8.2.4 Start Time

You can select a time for the mission to start, in half-hour increments. By selecting any time between 21:00 hrs and 07:00 hrs you will be flying at night. Lighting will change depending how early or late in the day you set the time.



### 8.2.5 Team Size

You can choose to take either a Light Team (two helicopters) a Heavy Team (four helicopters) or, if you feel you need them, the full six-ship Company team.

### 8.2.6 Combat Area

You can choose here whether to fight in Colombia or Latvia.

### 8.2.7 Load Mission

For users who have developed missions using the Mission Creator. Click here to load such a mission.

### 8.2.8 Fly Mission

Click here to start the mission.

### 8.2.9 Mission Briefing

This will display the mission briefing screen.



The Mission Briefing map shows your flight path through the mission. You fly along a series of route waypoints known as Aircraft Control Points, or ACPs. At each ACP, there are orders set for that leg of the journey. Later, we will describe how you can alter the ACP orders.

There are several buttons to the side of the mission briefing map. You can toggle them to show a variety of information on the missions.



This will return you to the map from the text Briefing or Formation screens.

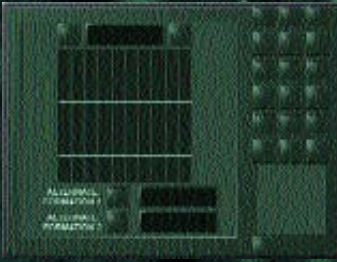


This displays the text briefing for the mission. The Briefing is displayed in the standard US Army order format and will include essential information on the mission objectives and your orders for its execution.



This will take you to the Formation screen, which allows you to view team formations.





The buttons at the top of the screen will cycle through all the SOPs formations, displaying their code names and what they look like. At the bottom of the screen are two alternate formations. Whatever the formation set for a leg of the journey, you can always order your team to switch to one of these alternates. You can set the alternates for the entire mission by clicking on the buttons here.



This button will zoom in on the map. Left-clicking your mouse with the cursor on the map will zoom you in on that location. If you are zoomed in, the small map down and to the right of the main map will outline the zoomed area. Moving your cursor and left clicking on this small map will move the designated area around.



This button will zoom you out from the map. Right-clicking your mouse with the cursor on the map will also zoom you out.



Show enemy forces.



Show friendly forces.



This button shows the engagement ranges of enemy SAM missile defences.



Show NATO-style icons on the map. (If not selected, stylised icons will be used for units.) See Appendix 4 for full breakdown of the symbology used on this screen.



This button will reset the Mission Briefing default settings.



Show the locations of built up areas.



In campaign missions only, you may be offered the option of refusing a mission if your team is in bad shape due to losses, damage or fatigue. Press this button to refuse the mission. If the situation is especially bad, you may have no other option but to refuse the mission. However, if you refuse too many missions when you could have flown, you may be courts martialled out of the campaign.



In campaign missions only, you can set the exact time you wish to launch a mission by pressing this button. By setting the launch time, you can plan to hit a target at a specific time, such as dawn or dusk; daylight or darkness.





This toggles the Apache team's flightpath and ACPs on and off.



This toggles the flightpath and ACPs of any Allied helicopters on and off.

### 8.2.10 Mission Editing

It is possible to edit elements of the mission plan. As mission commander, you have a responsibility to execute the mission, get the job done, and bring your men safe home. The mission briefings, as passed down the chain of command, have not necessarily been refined into a finished battle plan; there may be serious flaws in the briefing only you can fix.

The Aircraft Control Points (ACPs) are more than just waypoints in the mission. They also mark legs of the mission in which various orders apply. For instance, for the long leg outbound to the battle area, you may wish to travel fast and at a medium altitude; however, close to the target zone you may wish to slow down and sink to very low level flight.

Clicking directly on an ACP on the mission map will bring up an order window.



You can edit the parameters in the window. These are the standing orders that apply to your team for the leg of the mission up to that ACP:

**ACP Number** - clicking the +/- buttons will cycle you through all the ACPs.

**Arrive** - this is the time which is set for the team to reach the relevant waypoint. Clicking the +/- buttons will alter this time, which in turn will alter other parameters, such as speed.

**Altitude** - this is the altitude at which the team should be flying along the leg.

**Speed** - this is the air speed the team should be flying along the leg.

**Formation** - this is the SOPs formation the team should be flying along the leg. Click this button to cycle through the SOPs formations. Note that whatever formation you set here, in the mission you can always order your team to switch to an alternate formation, if it becomes necessary.

**Position** - the ACP position can be changed by left-clicking left clicking on the relevant ACP icon on the map, then drag and dropping it to a new location.



**Action** - this defines your team orders when you reach an ACP. These orders are fixed and can't be changed. The most common orders are:

**Transit:** fly to the next ACP

**Attack:** attack enemy targets at the ACP

**Land:** land at a base or FARP at the ACP

**Response to Threat** - this is the standing order that determines how your team reacts to the presence of a threat, such as AAA or SAMs, along the ACP route. Clicking on the +/- buttons, you can cycle through the orders, which include:

**Engage and Destroy:** eliminate all threats encountered

**Bypass and Suppress:** run past the threats encountered, using suppressing fire where necessary

**Bypass:** run past the threats at maximum speed; do not slow to use weapons

**Ignore:** ignore the threat, continue the mission as briefed

**Target of Opportunity** - this is the standing order that determines how your team reacts to the presence of targets of opportunity, such as tanks or transports, along the ACP route. Clicking on the +/- buttons, you can cycle through the orders, which include:

**Engage and Destroy:** eliminate all targets of opportunity encountered

**Bypass and Suppress:** run past the targets of opportunity encountered, using suppressing fire where necessary

**Bypass:** run past the targets of opportunity at maximum speed; do not slow to use weapons

**Ignore:** ignore the target of opportunity, continue the mission as briefed

**Delete Current ACP** - this will remove the current ACP from the mission. You cannot remove the first or last ACP in a mission.

You can add an ACP to a mission by clicking on the Add ACP icon (a small cross in a box on the map). This will place a new ACP on the map, which you can reposition and edit as usual.



## 8.3 Campaign Game

The real time Campaign is the most challenging part of Team Apache. Not only must you plan and fly missions, as in the Combat Missions, but also you must manage the personnel and resources of your team.

In the Campaign you are the commander of a US Army aviation company team. You have six AH-64A Apaches at your disposal, plus a spare. You also have sixteen aircrew - eight pilots and eight co-pilot/gunners - as well as eighteen maintenance crewchiefs. These will be your resources for the campaign. Lost aircrew can be replaced, but you'll receive no replacements for aircraft losses. You must husband your Apaches and personnel with care.

You will begin the campaign in Colombia, where you will fly a series of missions. Success or failure in these missions will in turn affect the events going on around you. Missions will appear depending on the course events take. Intelligence briefings and newspaper reports will give you the wider picture and inform you of how your campaign is progressing. After events have climaxed in Colombia, you will then move, with your team, to Latvia.

### 8.3.1 Beginning a Campaign

By clicking the Campaign button in the Main Menu screen, you will begin a Team Apache campaign. Firstly you are shown the Unit Designation screen.



You can select a unit to command using the buttons. You can select your Division, Battalion and Company team designation. In addition, you can enter your name as the unit commander in the bottom text box. Click the text box, delete the existing name with the Backspace key, and then enter your name. Finish by pressing Enter.

Once you are happy with your selection press Continue. As the commander of a team you are responsible for the resource management of the unit. There are two key resources for any Apache commander: helicopters and crew. In Team Apache you can choose to manage helicopter maintenance, the aircrews, or both. When you have selected the unit you want to command, you are offered the option to manage a crew. If you click Yes, you will go to the crew selection screen and select your crews. If you pick No, you will enter the campaign game and the computer will automatically assign your mission crews for you.



### 8.3.2 Crew Selection Screen



This screen shows the details of each pilot and co-pilot/gunner (CPG) you can recruit for your unit. By clicking on the buttons to each side of the pilot or CPG boxes you can cycle through the various crew members; each crewman will introduce himself when he appears, and his officer evaluation report will give you the skinny on him. Each crewman has their own strengths and weaknesses, so selection should be executed carefully, paying close attention to achieving a balanced team. When you decide on a pilot or CPG, click on an available space in the boxes to the right hand side of the screen. Clicking on an already occupied space will cause a box to appear which will ask you whether or not you wish to replace that crewman.

You must choose sixteen crew members - eight pilots and eight CPGs.

### 8.3.3 Forward Base



When you first enter the campaign, you will begin at the Forward Base screen. This shows the critical locations around your base of operations. If you run the cursor around the screen, various location names will light up. The critical locations are: Exit; Operations; Crew; Command Quarters; Crewchiefs' Hangar; Fly Mission and the Campaign Clock. On this screen and any of the other campaign screens, right-clicking the mouse will light up all the critical locations for you to see.



### 8.3.4 Campaign Clock

At the bottom right of the Forward Base screen you can see the digital Campaign Clock. The campaign runs in real time and the clock reads out in Days:Hours:Minutes using a 24-hour clock system. If you right-click on the clock, a menu will appear which will take you to any of the campaign screens. If you left-click on the clock you bring up the Time Management display.



Here there are four buttons:

**Exit** - this will return you to the Forward Base.

**Normal Time** - this will slow the clock back to real time.

**Accelerated Time** - this will accelerate time and events in the campaign. Repeated clicks will just increase the rate of acceleration. When a mission appears, the clock will automatically slow back to real time.

**Skip To Next Mission** - this will accelerate time until the clock reaches the next mission.

When the clock reaches a mission the display window will bring up a Frag Order. This Fragmentary Order will summarise the mission for you.

### 8.3.5 Operations



Operations is where you plan and organise your missions, when they are available. There are five 'hot spots' in operations:

**Mission Planner** - if there is a mission available, you may go to the mission planner. This functions exactly the same as described in section 8.2.9, the Combat Missions briefing screen description.

**Personnel** - if you are playing with the crew management option, you can replace killed or



missing crew members here. Select new crew using the same method as the Recruitment Screen and slot them into missing crew member's space. You won't be permitted to remove existing crew. Note that it takes some time for the replacements to arrive, during which they are not available for flight or combat.

**Supplies** - the supplies inventory lists all the spare parts available. When spares run short, replacements are automatically put on order; they usually take several hours to arrive. Also here, you can elect to make an Ice Cream Run. This will bring in luxuries (ice cream, videos, phonecards) for your team and improve morale, but at the cost of delays to any spares.

**Duty Roster** - if there is a mission available, you must set your Duty Roster. By clicking on them with your mouse, you can drag and drop Apaches from the flightline on the left into the mission slots in the centre of the screen. Note that you may only send out pairs of helicopters on missions; odd numbers are not permitted. The Apaches are colour-coded according to their maintenance state: green for Fully Mission Capable; amber for Partially Mission Capable; and red for Non-Mission Capable.

If you are managing a crew, you must also assign one pilot and one CPG to each helicopter. Drag and drop available crew onto the crew slots.

**SITREP** - if you click here you will see a map of the combat area. Enemy and friendly forces are displayed as NATO icons. Placing your cursor over an icon will reveal the unit name. By clicking on the Report button you will get a detailed situation report of the current situation in the campaign area, including weather reports and the latest enemy movements.

### 8.3.6 Crew

By entering the Crew area on the Forward Base, you can view the current status of all the Pilots and CPGs in your unit.

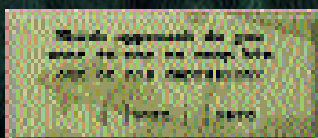


There are two sections here: the pilot area and the CPG area; you will be able to click between them. You will see a number of bunks in both areas, each of which bears the names of the crew members that occupy them. Pilots or CPGs who are missing will have this indicated on their bunk.





By clicking on a bunk, you will bring up a Crew Status display, and you will hear the crewman describe, in their own words, their current morale or fatigue state.



If their morale is particularly low, you will be offered the chance to talk to them in order to 'snap them out of it'. If you take up this option you will be offered two approaches to adopt. You can deal with the pilot or CPG with a disciplinary approach, or you can be more conciliatory. The crewman will usually signal how well your talk went down.



From the pilot and CPG areas, you can access the crew performance figures by clicking the ranking board. This shows every pilot and CPG pairing flown so far in the campaign, the number of times a pair has flown together, and their total scores. You can cycle through pairings by clicking the arrow.

### 8.3.7 Crewchiefs' Hangar





By entering the Crewchief's Hangar on the Forward Base, you can view the current maintenance and damage state of your Apaches, control the course of repairs, and assign weapon loadouts to suit the mission you are undertaking. There are three 'hot spots' in the Crewchief's hangar:



**Maintenance** - maintenance will show you the state of each Apache in your unit. Click on a folder tab to select an aircraft. The Mission Status entry will tell you whether the Apache is capable of flying. Fully Mission Capable means that it is in good order and ready for battle. Partially Mission Capable means the aircraft has light damage or malfunctioning non-critical systems; you fly it at your own risk. Non-Mission Capable means the aircraft is too damaged to fly.

The Damage Diagram will graphically display the systems affected by damage or malfunctioning as a result of wear and tear. Moderately damaged systems will be marked in yellow, while critically damaged systems will be marked in red.

The Damaged Parts section will list those parts that need replacing.



**Crewchiefs** - the crewchiefs' screen allows you to toggle the Auto Maintenance feature on, in which case the allocation of crewchiefs to damaged systems is handled automatically.

If you turn off the Auto Maintenance feature, you can manually allocate crewchiefs to damaged systems. When an Apache system is damaged or malfunctions, it appears on the Crewchiefs' screen in the following format:

- 1 \_ serial number of the damaged Apache
- 2 \_ identity of the damaged system
- 3 \_ system state and the number of crewchiefs assigned to the system
- 4 \_ time remaining until it's repaired



For instance: a typical readout might appear as:

1 - TAIL ROTOR BROKEN    2 Crewchiefs    Time - 238 mins

This means that Apache #1 has a broken tail rotor. Two crewchiefs have been assigned to repair it and the repair will be completed in 238 minutes.

You can add or take away crewchiefs from the repair of a system. Adding extra crewchiefs will reduce the repair time, but you should note that there is a point of diminishing returns; if you add too many chiefs to a job, it won't get done any faster. Some systems require a minimum number of men to complete the job; if you've allocated less than the minimum, it will note the number of crewchiefs required to begin repairs. If a system is marked as 'Waiting', it hasn't yet been allocated any crewchiefs.

At the top of the Crewchiefs' screen is a crewchiefs status box. If you work your crewchiefs too hard they will become fatigued, which in turn will affect their repair times. The only way to rest them is to stand down some of the crews by taking them off repair jobs. Crews not working wait in the Crewchiefs Resting box on the screen.



**Weapons Loading** - in the Weapons Loading screen you can select various weapons options for the next mission. These will apply to all the Apaches in your team. The options are:

**Hellfires** - 16 Hellfire

**Hellfires and MPSM Hydras** - 8 Hellfire and 38 Hydra with MPSM warhead

**Hellfires and HE Hydras** - 8 Hellfire and 38 Hydra with HE warhead

**MPSM Hydras** - 76 Hydra with MPSM warhead

**HE Hydras** - 76 Hydra with HE warhead



### 8.3.8 Command Quarters



There are four 'hot spots' to be found when you enter the Command Quarters on the Forward Base:



**Save** - this will take you to a Save screen where you can save your current campaign. With the mouse, click on the old or new slot you wish to save to, and then click on the text box at the top of the screen. You can then delete the name of the slot with the Backspace key and enter a new save name. Press Enter when you've finished typing the name and use the cursor to click on the Save button to save the game.

There are no limits on the number of Save slots you are allowed.

**Load** - you can reload a game from any existing save slot listed on the Load screen. Click on the save slot of the saved game, then click on the Load button to load it. You will re-enter the campaign at the saved point.

**SOPs** - this will take you to the SOPs screen to create new SOPs formations. See section 10.6.4 for further details.

**News Report** - the US Army thoughtfully delivers you a newspaper each morning of the campaign. The news reports here, no doubt skewed by the media, will give you a view of the wider picture, and of how the folks back home view the campaign. The newspaper is a good indicator of the ongoing military success, or otherwise, of the campaign. It will also tell you whether the 'home front' public relations war is being won.



### 8.3.9 Fly Mission

When you're ready to fly a mission, click on the Flight Line and you'll take off.

#### 8.3.10 Campaign Notes

Missions will change, and new missions become available, depending on events. In particular, the loss of crewmen may result in some of them becoming Missing In Action (MIA); rescue missions may be proposed to get them back.

Downed Apaches are generally lost unless they were lost close to the base, in which case there is a delay while recovery transports are sent to return the aircraft. Lost Apaches may not be replaced.

In certain extreme circumstances, events may occur that will cause you to be courts martialled and forced to retire from the campaign. We won't detail these here; we'll let you find them out for yourself!

#### 8.3.11 Campaign Afterword

We do not intend to provide any tips here on playing the campaign game. We prefer that you experiment, try out strategies and make mistakes, just as in real life. If you wish, whenever you fail a mission you can quit the campaign and return to a previous saved state to try the mission again, until you succeed. However, we feel this goes against the spirit of the game. The campaign is designed to be a rewarding experience, whether you win or lose. Brave players should accept the victories, take defeats in their stride, and work with what resources they have to achieve a conclusion.

## 8.4 Network

Team Apache supports several different modes of multi-player gaming. Details on multi-player set-up and configuration can be found in Appendix Three. Refer to this section for help in configuring your computer so that you are able to take part in multi-player games.

In network games one player - called the "Master" - hosts the game and sets up the mission parameters. All other players are "Slaves" and have no control over the mission options. A game can have multiple Slaves, but only one Master. The maximum number of players allowed in Co-operative missions is six; in Head-to-Head missions it is eight.

#### 8.4.1 Entering Network Games



When you click on Network in the Main Menu, you first come to the Network Screen.



Before you can enter or play a network game you must first select a network connection from the Networks Available display. Then you must give yourself a network name; without this you will be unable to join or create a game. Click on the name box and type a name, pressing Enter to confirm it.

Below the name box is a list of network games in progress. If you wish to join a game as a Slave player, click on the game's name to select it, then click on the Join button. If the game is a deathmatch game and a place is available in it, you will enter the game. If it is any other game, you will only be allowed to enter if the game has places available and hasn't yet started.

If you wish to create a game and host it as Master, select which type of game you wish to host: Co-operative missions or Head-to-Head. Then click on the Create button.

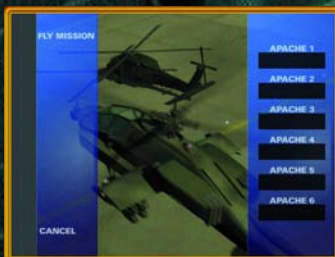
Co-operative missions give you access to all the Combat Missions and allows up to six players to fly as an Apache team. Players will have to work together to achieve victory. All the options available in the single player missions are open to you, and enable you to set up the environment and mission type.

Head-to-Head is frenzied competitive combat, set in Utah, which pits you against up to seven other players in four different missions. You also have several different options which will alter the parameters.

### 8.4.2 Hosting a Co-operative Mission



Selecting a Co-operative mission will take you through to the Co-operative Mission Session Screen. First, give the mission a Session Name by clicking on the name box, typing in a name, then pressing Enter to confirm. This will flag the game to the other players, who will be able to join. As with the Combat Missions, you can select the Mission Type, Weather, Difficulty, Start Time and Combat Area parameters. When you have this set to your satisfaction, click the Create Game button.





The next screen you go through to will show the mission slots and the names of those who have joined the game. When you are satisfied that everyone has joined the game, click the Fly Mission button and you will enter the mission.

### 8.4.3 Hosting a Head-to-Head Game



Selecting a Head-to-Head game will take you through to the Head-to-Head Session Screen. First, give the mission a Session Name by clicking on the name box, typing in a name, then pressing Enter to confirm. This will flag the game to the other players, who will be able to join.

Next, select the mission you want to host. There are four types:

**Standard Deathmatch** - this is a free-for-all contest; the last player alive or the player with the most kills wins. FARPs are scattered around the area; land on them to top up your weapons and fix your Apache.

**Team Deathmatch** - in all team games, players are split in to two teams, each taking off from a different base. In the deathmatch team game, the team with the most kills wins. FARPs are available at the each team's base.

**Team Base Attack** - each team must split their forces and attempt to defend their own base while destroying that of the other team. The bases themselves have light AAA defenses and a FARP. The winner is the side to first destroy all the primary targets at their opponent's base.

**Convoy Defence/Attack** - players will choose to either defend or attack a convoy of lightly armoured vehicles (in mission Convoy Attack 1) or transport helicopters (in mission Convoy Attack 2).

You can also select other parameters for the game:

**Regenerate on/off** - If regeneration is Off, each player only has one "life". If they are shot down they are out of the game. Clicking regeneration On makes available the Kill limit and Time limit parameters. The game will now "regenerate" helicopters back at home base, with a fresh weapons load, each time they are shot down. Setting the Kill Limit parameter will set the duration of the game - it will end when a player achieves the designated number of kills on the opposition. Setting the Time Limit parameter works similarly - it determines the duration of the game. If regeneration is Off, the game will end as soon as one side's mission objectives are achieved, or one side is wiped out.

**Weapons** - this option allows you to select the weapon payloads all players will use.



**Increased Armour** - this increases the toughness of all participating Apaches.

**Time of Day** - the time of day can be set, as in Combat and Co-operative missions.

**Weather** - the weather can be set, as in Combat and Co-operative missions.

When you have set all the parameters, click the Create Session button. You then enter the Team Screens.



The right of the screen will list all the players who have joined the game. If the game is a team game you may assign them to the Red and Blue teams simply by clicking and dragging them into the respective boxes. When you are satisfied with the team allocations, click the Fly Mission button to start the game.

#### 8.4.4 Playing Head-to-Head Games

All Head-to-Head missions take place in Utah. FARPs (see section 11) are set around the area. Most FARPs are a neutral grey colour, which is to say they can be used by anyone; however, Blue re-arming points can only be used by the Blue side and Red re-arm points by the Red side. If you land on a FARP, you will be re-armed with a fresh compliment of weapons.

Some FARPs may have a red cross appear on them from time to time. If you land on them while a red cross is in effect, you will be re-armed and all your damage will be repaired.

At the end of a mission, a debrief screen will appear to tell you who has won the game. At the side, all the players and their individual scores will be listed, in order of rank.

There are some special key commands which can be used in all Head-to-Head games. Pressing Shift + S will toggle the score feature on. This will show each sides' or each player's scores in the game. Pressing Shift + M will activate the message function. Simply type in a message and press Enter; this will broadcast the message to everyone in the game. Pressing Shift + T will activate the team message function. Type in a message and press Enter; this will broadcast the message to everyone on your team.

#### Controls:

- Shift+S \_ Score toggle
- Shift+M \_ Activate network message
- Shift+T \_ Activate team message





If you find typing messages too hard, you can pre-set messages so that you can send them by keying Shift and a number key. There can be up to ten messages in all, available from keys Shift +1, Shift +2 etc., to Shift +0.

The text messages are kept in a file in the TeamApache directory called netmsg.txt. Open up the file using a text editor like Notepad or WordPad and you will see a list of ten messages, one message per line. The top message corresponds to Shift +1; the bottom to Shift +0. You may change or edit these to suit yourself. Note that there is a maximum of 10 lines of messages; if you input more than 10 lines the excess will be ignored. Also note that no message can be longer than 32 characters; any excess will be ignored.

#### **8.4.5 Additional Notes on Network Games**

While in networked games, only the host player may advance ACPs or return to earlier ones.

When playing Head-to-Head games, the autopilot does not function and no enemy camera views are allowed.



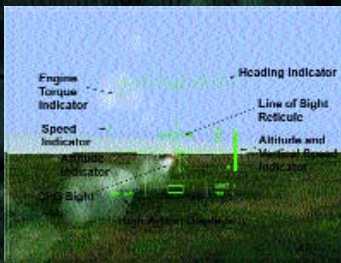
## 9 APACHE COCKPIT

When you enter a mission, you will fly from the cockpit of the team's lead Apache. This section will describe the basic cockpit displays. There are four in all: the IHADSS; the 3D cockpit; the 2D cockpit; and the Look Down cockpit.

The IHADSS is always on, except in the Look Down cockpit. Pressing the F2 key will cycle between the 2D, 3D and full screen cockpit types. Pressing the D key will change to the Look Down cockpit. The 2D, 3D and Look Down cockpits are all variations on the same theme, as they all essentially have the same displays.

### 9.1 IHADSS

The IHADSS, or Integrated Helmet and Display Sight System, is a helmet-mounted sight that superimposes images over the pilot and co-pilot/gunner's (CPG's) right eye. There are several elements to the IHADSS.



#### 9.1.1 Heading Scale

This shows the current compass direction you are facing. It also shows the position of the next designated waypoint (known as Aircraft Control Points or ACPs) as a vertical arrow, like an inverted 'V'. Also shown is a triangular mark, which indicates the direction the CPG is looking.

#### 9.1.2 Attitude Indicator



This shows the current attitude (i.e. angle of bank) of the aircraft relative to the ground.



### 9.1.3 Altitude and Vertical Speed Display



The vertical scale to the right of the IHADSS is the Altitude and Vertical Speed Display. The triangle shows the current climb rate; if it is on the centre line then the helicopter is flying level. If it is above the centre line then the helicopter is climbing and the rate of climb is relative to the distance above the line. Likewise, if the triangle is below the line, then the helicopter is descending.

The vertical bar fills when the helicopter is flying below 200ft altitude, to provide an analog indication of height when flying at low level. Above 200 feet the solid bar disappears.

Next to the Altitude and Vertical Speed Display is a digital altitude readout giving the altitude in feet.

### 9.1.4 Engine Torque Indicator



The Engine Torque Indicator displays the current engine torque - the amount of power from the collective control - as a percentage value. It is possible to go over 100% (though at the cost of extra wear and tear on the helicopter). If this happens, a box will appear around the number.

### 9.1.5 Speed Indicator

This indicates the airspeed in nautical miles per hour.



### 9.1.6 Line of Sight Reticle



This shows the centre of the pilot's line of sight. By using the cursor keys, or the coolie hat switch on the joystick (if available), you can slew the pilot's line of sight around to view different directions.

The pilot's sight also includes two other indicators: the Velocity Indicator, which is the line from the centre of the sight. This shows the velocity (direction and speed) of the helicopter as a line. The circle that moves around the sight shows the acceleration point. This indicates the amount and direction of acceleration on the aircraft.

### 9.1.7 High Action Display



The High Action Display provides much useful data in combat, and when navigating to a target area. To the right are the weapons displays. If the Master Arm is safe, it will indicate WPN SAFE. By pressing the M key you can take off the Master Arm safety mechanism and arm the weapons.

The weapons display shows the current weapon selected. If it is a gun or rocket, it will indicate the burst/salvo limit of that weapon. The burst/salvo limit is the number of rounds it will fire when the trigger is pulled. If guns are selected the display will also indicate the ammunition remaining.

To the left of the High Action Display is the navigation cue. When not in combat, this will show you the distance to the next ACP and the number of that ACP. In combat it instead will give you the range to the target.



### 9.1.8 TADS Field of Regard and CPG Line of Sight



The Targeting Acquisition and Designation System, or TADS, is a turreted sensor cluster mounted in the nose of the Apache. It is controlled by the CPG and is designed to lock onto targets, track and designate them for Hellfire attacks or range them with the laser for rocket launches. The smaller box indicates the direction the TADS (and by inference the CPG) is looking.

When the CPG has spotted a target, a small line of sight bracket will appear around it. This is the actual target the CPG is looking at.

### 9.1.9 Gun Symbology



When the guns are selected, you will see this cross hair move around the IHADDs. The nose-mounted gun is slaved to the CPG's line of sight; he will pick out targets for you to shoot at. The gun will aim directly at the cross hair.

### 9.1.10 Rocket Symbology

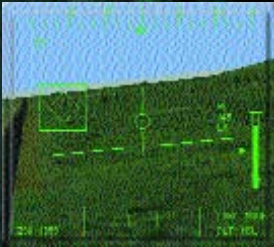


When rockets are selected, an I-beam symbol appears. This is the aiming marker for the rockets. The CPG will range the rockets and the elevating rocket pods will aim within the



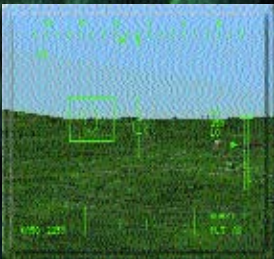
vertical limits of the symbol - the top and bottom of the 'I'. To aim rockets you must place the beam directly on the target so that it is between the vertical limits. If you are not on target, the symbol will be a broken line; when you are on target it will turn solid.

### 9.1.11 Hellfire Symbolology



When Hellfire is selected a box appears on the IHADSS. The box is large if in LOAL mode and smaller if in LOBL. If Hellfire hasn't locked onto a target, the boxes will be made of broken lines; however, when the Hellfire system achieves a lock on, the box will bracket the target and turn solid.

### 9.1.12 ATAS Symbolology



When Air-to-Air Stinger is selected, a double-box will appear on the IHADSS. The inner box is solid and the outer box broken. When Stinger achieves a lock on to a target, the outer box will turn solid and a tone will sound.



## 9.2 2D, 3D, Look Down Cockpit Displays



The 2D, 3D and Look Down cockpits all share the same displays.

### 9.2.1 Artificial Horizon



The Artificial Horizon shows your attitude in relation to the ground.



### 9.2.2 Airspeed Indicator



The Airspeed Indicator shows your current speed in nautical miles per hour, or knots.

### 9.2.3 Vertical Speed Indicator



The Vertical Speed Indicator shows your rate of climb and descent.

### 9.2.4 Radar Altimeter



The Radar Altimeter shows your altitude above the ground.



### 9.2.5 Barometric Altimeter



The Barometric Altimeter shows your altitude above sea level.

### 9.2.6 Compass



The Compass shows the direction you are currently facing; the line on the compass is the direction to your next Aircraft Control Point.

### 9.2.7 Clock



The Clock shows the current time of day.



### 9.2.8 Radar Warning Receiver



The Radar Warning Receiver shows the location of enemy radar-guided SAM and AAA units.

### 9.2.9 PNVS



The centre video display shows the infrared view from the Pilot Night Vision Sensor, or PNVS.

### 9.2.10 Warning Panels



There are two panels of warning lights in the cockpit. The Caution/Warning panel is down and to the right in the 2D and 3D cockpits. There are thirteen warning lights on this panel. Each is described here:



- 1 \_ VIB GRB . . . . . tail rotor gearbox vibration
- 2 \_ TMP TR . . . . . tail rotor gearbox is overheating
- 3 \_ RKTS . . . . . rockets light damage
- 4 \_ GUN . . . . . gun light damage
- 5 \_ MISSILE . . . . . Hellfire system light damage
- 6 \_ ATAS . . . . . ATAS system light damage
- 7 \_ OIL . . . . . transmission damaged
- 8 \_ ENG1 CHP . . . . . engine 1 heavy damage
- 9 \_ ENG2 CHP . . . . . engine 2 heavy damage
- 10 \_ ENG1 OIL . . . . . engine 1 light damage
- 11 \_ ENG2 OIL . . . . . engine 2 light damage
- 12 \_ HYD BYP . . . . . hydraulics light damage
- 13 \_ HYD PSI . . . . . hydraulics heavy damage

The Master Caution Warning Panel is above the PNVs display. These warning lights duplicate the most serious lights on the Caution/Warning panel and light up only in a serious emergency.

- 1 \_ M CTN . . . . . master caution warning
- 2 \_ M WPN . . . . . any weapon has heavy damage
- 3 \_ TRM . . . . . transmission severely damaged
- 4 \_ ENG1 . . . . . engine 1 severely damaged
- 5 \_ HYD . . . . . hydraulics severely damaged
- 6 \_ ENG2 . . . . . engine 2 severely damaged
- 7 \_ TADS . . . . . TADS severely damaged
- 8 \_ BUCS . . . . . cockpit damage
- 9 \_ PNVs . . . . . PNVs severely damaged

## 9.3 Radar Warning Receiver



The APR-39A(V) Radar Warning Receiver (or RWR) is an important defensive display. It monitors enemy radar broadcasts and tells you whether the radar is searching for you, or has locked onto you and is tracking for a weapons shot or a missile launch.

The RWR is a scope, centred on your Apache. It shows the relative position of enemy radars within a range of 5 kilometres. Radars are displayed as follows:

- U** \_ Unknown radar    **6** \_ SA-6    **8** \_ SA-8    **11** \_ SA-11    **15** \_ SA-15



- △** \_ AAA (also known as ZSU or 'zoo')

If the symbol is surrounded by a box, it means it is tracking. The RWR will also give you an audio warning. If a radar missile is launched at you, a missile warning light by the scope will illuminate, and an audio warning will be given.



# 10 APACHE CONTROLS

## 10.1 Principles of Helicopter Flight

This section attempts to make simple the basics of helicopter flight. Knowing how helicopters fly will make your control of the Apache more instinctive.

### 10.1.1 Gravity and Lift

The most fundamental force on all flight is gravity, which causes objects to fall to the Earth. Aircraft counter gravity with lift, which they create by slicing a wing rapidly through the air. The wings are shaped in cross section so as to cause low air pressure on their upper side and high air pressure on their underside; it's this difference in air pressures that causes the lift force on the underside of the wing and pushes an aircraft into the air.

In helicopters the wings, known as rotors, are not fixed, but are whirled around at high speed to create lift. The amount of lift is dependent in part on the speed of the rotors through the air. It is also dependent on the angle of incidence of the rotors, which is the angle at which the rotors hit the air. At the extremes - an angle of zero (where the rotor blades are flat to the ground) and an angle of ninety degrees (where they are flat to the air), rotor blades generate little or no usable lift at all. At the angles of incidence between these extremes, they generate varying amounts of lift. The Collective control in the helicopter is used to alter this angle of incidence (it controls all the rotors collectively, thus the name) and therefore controls the amount of lift from the rotors. In Team Apache, the amount of lift from the collective is measured in terms of Engine Torque and is displayed on the pilot's IHADSS.

When a helicopter can balance lift and gravity perfectly, it will hover.

It's common to refer to the moving rotors as the rotor disc. Air around the disc flows up, over and down through the disc to create downwash. For the most part this has no effect on the helicopter; however, at very low altitudes, within a rotor length of the ground, the downwash bounces back off the ground and provides an air cushion for the helicopter. This is known as the ground effect.

Another effect of downwash occurs when a helicopter with little forward speed descends too fast - faster than its downwash. At this point lift is lost and the effect, known as vortex ring state, can even push the helicopter into the ground. One way to avoid this is to ensure that rapid descents are made with some forward speed, so that the helicopter isn't caught in its downwash.

### 10.1.2 Torque

The spinning rotors and the rotor shaft that connects them to the engines create a torque force against the helicopter airframe. Torque is a force that tries to spin the helicopter in the direction opposite the direction of the rotors. To prevent it from spinning uncontrollably in the air, helicopters like the Apache use a tail rotor to oppose the torque force. By altering the power from this tail rotor, the helicopter can be spun in place, clockwise or counterclockwise, around the rotor shaft. This spinning around the axis is known as yaw.



### 10.1.3 Horizontal Flight

By tilting the rotor disc, the helicopter can be made to fly forward, or backward or sideways. This is because tilting the disc means that some of the lift force is not just being directed upwards, but also horizontally. The control used to tilt the rotor disc is known as the cyclic. Tilting the disc forward with the cyclic means the helicopter flies forward; sideways means it flies sideways; backward means it flies backward. Because some of the force is being directed to forward (or sideways or whatever) motion, some of the lift needed to maintain height is lost. Therefore, when flying a helicopter forwards, additional lift from the Collective control is required to maintain an even height. This also means that when slowing down from high speed level flight, the lift from the Collective must be reduced, otherwise the helicopter will translate all its forward lift into upward lift and pop up from low level, which can be dangerous when engaged in combat.

As the helicopter begins to move forward, the air moves across the rotor blades, creating additional lift known as translational lift. This tends to kick in above a certain speed - about 20 knots in an Apache - and reaches its maximum at 60-70 knots. At these speeds, the extra lift also improves the helicopter's climb rate.

The helicopter's top speed is limited by the force known as drag, which is the resistance caused by flying through the air. Drag affects both the helicopter's airframe and its rotors. Above a certain speed, no amount of lift from the rotors can cancel out the force of the drag against the helicopter and it stops accelerating.

## 10.2 Flying the Apache

This section covers the basic flight controls.

### 10.2.1 Starting Engines and Collective

When your mission starts, you will be sitting in your Apache on an Allied airfield. Press E to start your engines. Once the engines are up to speed (you can tell from the sound or check an external view), increase the Collective and watch the Engine Torque percentage climb on the IHADSS. After a certain point (usually around 60%) the aircraft has enough lift to begin climbing into the air. By jockeying the Collective, and the Engine Torque percentage, up and down you can you can climb the helicopter, make it sink, or even balance out lift and gravity so as to hover.

Balancing the Collective to control the helicopter's vertical movement is helped greatly by the vertical scale on the right-hand side of the IHADSS. The arrow shows the current climb rate. If it is on the centreline then the helicopter is flying level, not gaining or losing altitude. If it is above the line then the helicopter is climbing, the rate of climb is relative to the distance above the centreline. Likewise, if the triangle is below the line, then the helicopter is sinking toward the Earth.

Close to the ground, the ground effect kicks in and you will find it easier to hover the Apache. Higher up, you lose the ground effect and your lift is reduced.

#### Controls:

E \_ Starts engines      + \_ Increases collective      - \_ Decreases collective

Joysticks using an active throttle control can use that to adjust the collective instead.



## 10.2.2 Tail Rotors

In flight, you can use the tail rotors to yaw right or left; in effect spinning the helicopter around its rotor shaft. Yawing is most effective when the helicopter is stationary, in the hover. It's less effective at high speed because of the rotor's inability to overcome the effects of drag on the airframe.

### Controls:

< \_ Yaw left                      > \_ Yaw right

Joysticks using an active rudder control can use that to control right or left yaw instead.

## 10.2.3 Cyclic

To move forwards from the hover, pitch your nose down by pushing the joystick forwards. If you have no joystick use the up key (number 8) on the side keyboard pad. (Note that on most keyboards, the side pad is only operative when the Number Lock is on.)

To fly sideways or backwards, you move the joystick in that direction. Since some of the lift keeping the aircraft aloft is being used to move horizontally, you will probably have to increase the collective to prevent you from sinking toward the ground.

If you pitch the controls too far (which can be done in some extreme circumstances), the rotors no longer produce lift and you will stall out of the sky.

### Controls:

8 \_ Forward (number pad)                      4 \_ Left (number pad)  
6 \_ Right (number pad)                      2 \_ Backward (number pad)

## 10.2.4 Advanced Flight Controls

Pressing A while in flight will enter you into Autopilot mode. While under autopilot control, your Apache will follow its waypoints at the briefed heights and speeds. There are limits in place to prevent you entering Autopilot from extreme flight conditions, such as high pitch or bank angles.



Pressing H will enter you into **Bob Up** mode. While in Bob Up the Cyclic is disabled and you will remain stationary. The only flight controls you can use are the Tail Rotors, which will allow you to yaw, and the Collective, which will alter your height. When you enter Bob Up, a box will appear on the screen. This marks a spot on the ground directly in front of you when you entered the mode; if you yaw or change altitude, it will move around to indicate how you have moved relative to your original position.



While in Bob Up, there are restrictions on the altitudes you can climb or sink to. You cannot enter Bob Up if you are flying greater than 50 knots.

Pressing the Tab key will exit you from both Autopilot and Bob Up mode.

**Controls:**

- A** \_ Enter Autopilot
- H** \_ Enter Bob Up
- Tab** \_ Exit Autopilot or Bob Up

## 10.2.5 Advanced Navigation Controls

In missions you fly to waypoints known as Aircraft Control Points or ACPs. If you wish to alter the current ACP you are flying to, press the Home or End keys. Home advances your ACP by one; End returns it to a previous ACP. You can cycle through all the ACPs with these buttons.

**Controls:**

- Home** \_ Advance ACP
- End** \_ Previous ACP

## 10.3 Weapons Controls

There are four types of weapon carried by the Apache: the 30mm chain cannon; the Hydra Folding Fin Aerial Rocket; the Hellfire laser-guided anti-tank missile; and the Stinger infrared air-to-air missile.

### 10.3.1 Basic Weapon Controls

The principal controls for the Apache are the M key, the Master Arm switch which activates your weapons systems after take off (while disarmed, your weapons are 'safe' and will not fire), and the Backspace key, which cycles through the weapons systems. If you have a secondary fire button on your joystick, this will also cycle the weapons.

When selected, the weapons will fire by pressing the Space key, or the fire button on your joystick.

**Controls:**

- M** \_ Master Arm
- Space** \_ Fire weapon
- Backspace** \_ Cycle weapons

Joysticks with a fire button use that to fire weapons; those with a secondary fire button can use that to cycle weapons.

### 10.3.2 CPG Controls

The CPG in the game operates intelligently. Depending on the weapon you have currently selected, they will pick out targets and aim weapons at them, depending on the target's level of mission importance, the level of threat and their range and position relative to you. The CPG will generally present you with the best targets they are able to find; however, you can override the CPG if you wish and have them target other enemies. Press the



Insert key and they will immediately target the next most likely enemy. You can use this key to cycle through nearby enemies until your CPG locks up the target you want.

Because the combat situation is constantly changing, your CPG might, if left alone and no attack is made, switch targets to a better one if it comes into view. To prevent this, press the Delete key. This will order the CPG to stay on their current target.

#### Controls:

**Insert** \_ CPG to track next target

**Delete** \_ CPG to remain tracking current target

### 10.3.3 Gun Controls

The M230 chain cannon will fire depending on its burst setting. The cannon has burst settings of 10, 20, 50, 100 or All rounds. Pressing the J or K keys will cycle you up and down these burst settings. When set to 10, 20, 50 or 100 rounds, the weapon will fire that many rounds on a single trigger pull. When set to All, it will keep firing so long as the trigger is pulled.

The gun will fire at the gun crosshair on the IHADSS, which will be aimed by the CPG. Because it is mounted on a flexible mount, the gun can even be aimed at targets off to the side - wherever the CPG can see.

In certain circumstances, damage and systems failure can cause the gun to become fixed directly ahead; in which case it will fire directly along the centreline - the boresight - of the aircraft.

#### Controls:

**J** \_ Cycle burst setting up

**K** \_ Cycle burst setting down

### 10.3.4 Rocket Controls

Like the gun, the Hydra rockets will fire depending on its salvo setting. The rockets have salvo settings of 1, 2, 4, 8, 12, 24 and All rounds. Pressing the J or K keys will cycle you up and down these salvo settings. That many rockets will be launched on a single trigger pull. If set to All, rockets will continue to launch so long as the trigger is pulled.

Rockets aim along the aircraft's centreline, so you must point the Apache directly at a target when you fire. To aid you with the ballistic fall of shot, the rocket pods are elevated. When you aim at a target, your CPG will automatically check the aim and range with his laser target designator to set the rockets to fire at the correct elevation.

When aiming, you should place the IHADSS I-beam aiming sight on the target, such that it is on the line and between the upper and lower bars of the 'I'. If you're on target, the I-beam will turn from a broken line to solid; at this point you will be able to launch your rockets.

#### Controls:

**J** \_ Cycle salvo setting up

**K** \_ Cycle salvo setting down



### 10.3.5 Hellfire Controls

Hellfire missiles are fired singly. When Hellfires are selected, a missile Lock On box appears on the IHADSS. This box remains a broken line until the CPG locks on to the target. A lock on will mean that the missile will guide to the target when launched. Note that the CPG will only lock large or armoured targets such as buildings or vehicles. The CPG will almost never lock up individual infantrymen.

It takes time to successfully lock on to a target and you should be pointed roughly in the direction of the target to ensure a good lock. If you move after achieving the lock, the CPG's TADS system will continue to track the target. The only thing that will then break the lock is if you lose sight of the target by dropping behind cover. You must keep the target locked up throughout the missile's flight; if you fail to do so the missile will stop guiding and miss the target.

There are two modes in which you can employ Hellfire: Lock On Before Launch (LOBL or 'Lowball') or Lock On After Launch (LOAL or 'Lo-Al'). You can toggle between modes by pressing the G key.

In LOBL mode the missile requires a lock on before it is launched. Launch without a lock on will cause the missile to fly straight ahead, unguided. If you are able to lock onto the target before such a missile reaches it, there is a small chance the missile might begin to guide, but it is unlikely. If the target is under 500m when you are in LOBL mode, you are within the minimum range limits of the weapon. The words MIN RANGE will appear on the IHADSS and the missile will be prevented from launching.

In LOAL mode the missile does not require a lock on before launch. Instead, if you launch a missile it will fly a climbing trajectory. If you manage to lock a target before the missile completes its climb, it will guide and attack the target. LOAL mode is ideal for launching from behind cover and then bobbing up to lock a target. However, it needs a significant amount of range to the target to ensure there is adequate time for a lock on. It's recommended this mode not be used at ranges less than 1,700 meters.

#### Controls:

G \_ change missile mode

### 10.3.6 Stinger Controls

Like Hellfire, Stinger missiles are fired singly. It takes a short time for Stingers to lock up a target and you should try to point the Apache roughly at the target to ensure the swiftest lock on. When locked onto a target, the outer box surrounding the Stinger lock symbol will become solid, a tone will sound, and the weapon is ready for launch. After launch the missile will seek out the target on its own; you can effectively forget the weapon.

### 10.3.7 Artillery Controls

Some missions will give you the opportunity to call in artillery strikes from dedicated batteries assigned to your unit. The briefing will usually tell you how many strikes you are allowed. To call in a strike, point your pilot sight (either by moving the pilot's head or the helicopter) at the bit of ground you want to bring the artillery down on. Then press the U key to register the co-ordinates. The artillery battery will send a radio call to confirm the co-ordinates. When you want to bring down the strike, press Shift + U to pass the order



to the artillery. It then takes about thirty seconds for the first shells to arrive.

### Controls:

- U** \_ Register the ground co-ordinates in your pilot's sight
- Shift+U** \_ Order Artillery attack at registered co-ordinate

## 10.4 Camera Controls

There are a variety of camera views in Team Apache. Feel free to experiment with these views:

- F1** \_ Cockpit view with IHADSS
- F2** \_ Cycles through 2D, 3D and full screen cockpits
- F3** \_ Chase camera
- F4** \_ Wing view camera (press again to swap between right and left wing cameras)
- F5** \_ Pole camera
- F6** \_ Controllable drop camera
- F7** \_ Fly-by camera
- F8** \_ Friendly camera view
- F9** \_ Enemy camera view
- F11** \_ Missile chase view
- F12** \_ In-Flight map
- Ctrl+I** \_ Infrared toggle for external camera views
- PgUp** \_ Zoom in (only works in when in F5, F8 & F9 cameras)
- PgDn** \_ Zoom out (only works in when in F5, F8 & F9 cameras)

When in a cockpit view, the cursor keys (or the coolie hat, if you have one on your joystick) will move your pilot's head around. Pressing Shift and the left cursor key will snap the pilot's head to the left. Pressing Shift and the right cursor key will snap it to the right. Pressing 0 on the number pad will centre the view again.

Cursor keys will rotate the camera around when in F5, F6, F8 and F9 views.

## 10.5 Other Controls

### 10.5.1 Cockpit Controls

- D** \_ Look down cockpit
- V** \_ Cockpit light toggle
- Shift+V** \_ Increase cockpit light intensity
- Ctrl+V** \_ Decrease cockpit light intensity
- Ctrl+L** \_ Toggle navigation lights (turns on navigation lights)
- Ctrl+H** \_ Increase IHADSS brightness
- Shift+H** \_ Decrease IHADSS brightness
- I** \_ Toggle infrared sensors (turns on infrared night sensors)
- PgUp** \_ Magnify (zoom in) the cockpit infrared view
- PgDn** \_ Zoom out the cockpit infrared view



## 10.5.2 Countermeasures Controls

The Apache is equipped with countermeasures against enemy sensors and missiles. The AN-ALQ136 is highly directional deceptive jamming system which, because of the way its aerials are mounted, will only jam radar in the Apache's forward quarter. In Team Apache your jammer is on at all times; to ensure its effectiveness, point the nose of your Apache at an enemy radar and it will jam it. Jamming causes guns and missiles to become less accurate.

The ALQ-144(A) infrared jammer uses a superheated ceramic infrared source and a complex sequence of reflective mirror modulations to fool IR missiles into breaking lock on the helicopter. Like the radar jamming system, the ALQ-144 is considered to be switched on at all times. It will affect missiles coming from almost any direction by causing their locks to break or adding an error into their guidance, causing them to miss.

The M-130 dispenser system carries 15 chaff and 15 flare cartridges for last ditch defence against missiles. Chaff defends against radar missiles by increasing the size of the Apache's radar signature, so adding a 'miss distance' to the missile's guidance. Flares can decoy infrared missiles away from the helicopter. If a missile is incoming, press **C** to dispense Chaff and **F** to drop flares.

### Controls:

- C** \_ Dispense Chaff
- F** \_ Dispense Flares

## 10.5.3 Miscellaneous Controls

- Z** \_ Emergency hydraulics. If your hydraulics are destroyed, this will provide brief hydraulic power for 60 seconds.
- P** \_ Pause
- O** \_ Options Screen
- Ctrl+G** \_ Screen Grab (creates a .PCX graphics file in your game directory)
- Escape** \_ End mission

## 10.6 Team Flying and SOPS

When performing missions, you will be commanding a team of helicopters. The US Army organises their teams into three types:

**Light Team** - this consists of two Apaches working together to scout or take out small threat forces.

**Heavy Team** - this consists of four Apaches, working as a team against high-powered threats.

**Full Team** - this comprises all six Apaches in the aviation company team. This combo should be enough to take out almost anything.



### 10.6.1 Light Team Operations

The light team consists of yourself and your wingman. This size of team is normally used on reconnaissance missions, or low threat missions against small numbers of enemy.

To communicate with your wingman, set the radio to channel one, by pressing the 1 key. (Alternatively, pressing X - all channels - will also patch you through to your wingman.) Now you can give your wingman orders. Listed below are the standard orders you can issue to your wingman:

**Engage Threat (4 key)** - this will command your team to engage any targets that are a direct threat to the Apache, such as SAMs or AAA.

**Engage Primary Targets (5 key)** - this will command your team to engage only primary targets. The primary targets are listed in each mission briefing.

**Engage Target of Opportunity (6 key)** - when used en route to the target area, this will command your team to attack targets of opportunity, such as tanks or trucks. Generally, such an order will cause your team to ignore any non-priority targets, such as infantry.

**Engage all Targets (7 key)** - this will command your team to attack any and all targets visible.

**Bypass and Suppress (8 key)** - this will command your team to bug out and follow the ACPs, suppressing any enemies en route with gun fire.

**Ignore Target (9 key)** - this will command your team not to engage any non-threat targets they see; however, they will continue to shoot at any high-priority visible threats such as SAM or AAA..

**Wingman Form On Me (0 key)** - this will command your wingman to break off their current action and form up on your wing. Note this applies to the wingman only; not to any other pairs of helicopters.

**Engage My Target (T key)** - this will command your team to join in an attack on your target.

**Wait (W key)** - your team will hold its current position, either for ninety seconds or until given further orders.

**Location Request (R key)** - this will prompt a location bearing from your team member. They will give their position relative to yours in terms of a clock bearing and a distance from your helicopter.

**Status Request (S key)** - to find out how your team member is doing, press this key.

**Follow Mission Briefing (B key)** - this cancels any previous orders and commands your team to follow the mission brief.

**Go To Next ACP (Home key)** - this will order your team to head for the next ACP.

**Go To Previous ACP (End key)** - this will order your team to head for the previous ACP.

**Go To Final ACP (Home + Control)** - this will order your team to head to the last ACP.

Giving an order will cancel any previous ones. Generally, if an order is completed (for instance, all threats are eliminated after an engage threat order is given), the team will revert to their briefed orders.



## 10.6.2 Heavy Team Operations

A heavy Apache team is formed of two pairs of helicopters and is generally used for high-threat missions. In the heavy team you operate two pairs: your own helicopter and your wingman form Team 1, while the other two Apaches form Team 2. You can now act in concert with two pairs of Apaches, carrying out pincer manoeuvres, surprise attacks and other tactics.

To communicate with Team 2 you must set the radio to channel 2 by pressing the 2 key, or channel Alpha by pressing the X key, which transmits to all members of your team. With the exception of Wingman Form On Me, you can give the same orders that were available to your wingman in the Light Team (see section 10.6.1) in addition to those detailed below:

**Set Team as Leader (L key)** - by using this command you can set the pilot of the lead Apache in the other team as the leader of the heavy team. All other helicopters will formate on the newly appointed leader. (Except for your wingman, who always formates on you unless ordered otherwise.)

**Backup Team 1 (Ctrl + 1)** - this will command the team that you are communicating with to back up and support Team 1 (you).

**Backup Team 2 (Ctrl + 2)** - this will command the team you are communicating with to back up and support the second pair of Apaches.

## 10.6.3 Full Team Operations

The full team of six Apaches provides the ultimate in aviation attack power. This formation is only generally used when the heaviest combat is expected.

The full team is made up of three pairs of helicopters. Team 1 (you and your wingman), Team 2 and Team 3. To communicate with the third pair you must set channel 3 on the radio by pressing the 3 button, or communicate via the Alpha channel to all Apaches in the team.

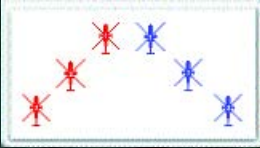
You can use all of the commands available during light and heavy operations in addition to the following:

**Backup Team 3 (Ctrl + 3)** - command the team you are communicating with to back up and support team 3.

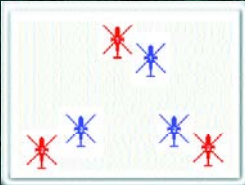


## 10.6.4 SOPS

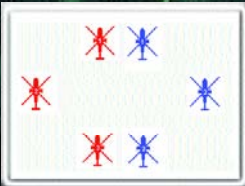
When flying in a team it is possible to set a number of formations. Formations in the game are set as Standard Operating Procedures, or SOPs. A typical SOPs formation is the transit formation as shown below:



The transit formation is a tight formation used when travelling at speed across the battlefield. An alternative formation is the cover formation as shown below:



The cover formation provides mutual support for the helicopter pairs. Another alternative formation is the cluster formation as shown below:



This formation is useful when escorting another helicopter, such as a Blackhawk or a Chinook.

You can define your own custom SOPs formations for operating with any number of Apaches. To do this, first go to the training section of the GUI. From here select the SOPs option and you will see the following screen.



To generate a new formation, press the NEW button. A set of six helicopters will be displayed. The helicopters are organised into pairs, with reds as the leads, and the



correspondingly numbered blue choppers as the wingmen. You can drag and drop these helicopters around the SOPs screen display to the locations you want. If you want to zoom in and out of the display to different scales, left click on the mouse to zoom in and right click to zoom out.

When you are content with the formation you've created, click on the **SAVE** button. You will be given the option to name the formation before saving it. There is no limit on the number of SOPs formations you can have in your SOPs 'playbook'.

In the Mission Briefing, you can select the formation you wish to use for each ACP.

In the Formation screen, you can also set the two alternate formations you wish to use in that mission. Whilst in the game you can choose to fly either the briefed formation for the leg of the mission, or one of the two alternates. The briefed ACP formation is selected by pressing the Enter button. To select the alternatives, press the [ button for alternative formation 1 and ] button for alternative formation 2.

#### Controls:

- Enter** \_ Briefed SOPs formation
- [ \_ Alternate formation 1
- ] \_ Alternate formation 2



## 11 FARPS

Forward Area Rearm/Refuel Points, or FARPs, are forward rearmament points which may be present in non-campaign missions. They look like helipads. Landing on one of them during a mission will completely rearm your Apache. FARPs do not rearm any other members of your team.





## 12 SETTINGS

There are a variety of different graphics and game settings with which you can customise Team Apache. Going to the Options screen from the Main Menu allows you to set the options to suit yourself. While in the game, you can go to this Menu by pressing the O key.



### 12.1 Graphics Options

This panel allows you to set your graphics options.

**Special Effects** - Team Apache uses a great deal of graphic special effects. By choosing from High to Low on the Special Effects bar, you can configure the level of detail suitable for your set-up.

**Graphic Detail** - you can set this bar to control the degree of texture detail in the game. The higher the detail level, the more detailed the textures. If you have a video card with a small amount of memory, it is a good idea to turn this down.

**World Detail** - you can set this bar to control the amount of object detail, as well as the number of terrain objects in the world. A low setting will have less terrain objects, such as trees and houses, in the game. If the game frame rate is low, reducing this setting will improve the speed.

**Resolution** - click on a suitable option here for the screen resolution you wish to run the game in.

If running the game with an accelerated graphics card, a Fog On/Off button will appear. Normally this is switched on, but some cards do not permit fogging and alpha effects. If you are having problems with the graphics, try switching the fogging off.

If running the game in software, a Render To Video Memory button will appear. Depending on the graphics card used, turning this on or off may improve performance.

### 12.2 Sound Options

This panel allows you to set your sound options, including the Sound Effects Volume and the Radio Messages Volume. You can turn the engine noise on or off.

You can also reduce the number of sound effects and radio messages used in the game. If on a lower specification machine the game is running slowly, or you are getting poor performance from the sound, such as stuttering, this is a good method of improving performance.



## 12.3 Game Options

There are several options in Team Apache to make combat slightly easier. These are ideal for beginners who are having difficulty getting to grips with the game. All these options are available either by clicking the box on the options screen.

**Unlimited Ammunition** - by enabling this option, you can be as trigger happy as you want.

**Easy Radar Jamming** - with this option enabled, the jamming area in front of the Apache is increased.

**IHADSS Radar** - this places a radar scope on the IHADSS, which shows the location of enemy and friendly forces within 2km of your Apache as coloured dots. Red dots are enemies, blue dots friendlies, yellow dots primary targets and green dots are members of your team. (In deathmatch mode each player's colour is displayed on the radar.) When using the IHADSS radar, the Page Up and Page Down keys will zoom in and zoom out the radar between 500m and 4000m radius (unless Infra-red mode is active).

**Display Target Type** - by enabling this option the identity (target type) of the current target will appear on the High Action Display.

**Fire and Forget Weapons** - by enabling this option, guided missiles will be set to home on the object that was targeted at the moment of launch. The CPG will then be freed up to target other objects without affecting weapons in flight.

**Easy Weapons** - the CPG will aim and lock onto targets much faster than usual. Rockets can be aimed slightly off-boresight (up to 2-degrees) and the weapons pylons will steer them horizontally as well as vertically to aim at the target

**Realistic Weapons** - this option will make the CPG behave in a realistic manner. Lock on times will be longer and rockets cannot be steered horizontally.

Note that only one of the Fire and Forget, Easy and Realistic weapons options may be switched on at the same time.

## 12.4 Flight Model Options

There are several options in Team Apache to make flight easier. These are also ideal for beginners to play with.

**Extra Stability** - this is the 'Easy Flight Model' in Team Apache. The helicopter will be much easier to control with this enabled, however, it will not be anywhere near as manoeuvrable, and will be unable to perform certain manoeuvres.

**Extra Ground Effect** - this option increases the ground effect created by the rotor disc, providing a convenient cushion against crashing at low level. (Makes it damned hard to land though!)

**No Wind** - the Apache can easily be effected by strong crosswinds and wake vortices of other aircraft. By enabling this option, all wind and air effects are turned off.

**No Blast Waves** - when munitions explode, shock waves fly out in all directions, which can batter a nearby Apache. By disabling this option the Apache will be unaffected by blast effects, though of course the explosions will still damage the Apache if they are close enough.



**Reverse Collective** - the collective (throttle) control on the joystick is defaulted to work so that pushing the throttle wheel (or lever or slider) forwards increases the collective. By turning this button on, the control is reversed to work helicopter-style - collective increases by pulling the control back towards you.



## 13 CAMPAIGN

### 13.1 Colombian Campaign Summary

#### 13.1.1 Campaign Background

Having suffered a presidential corruption scandal and three years of decertification as a 'co-operating country' in the United States' war on drugs, Colombia's new 'Government of National Reconciliation' has undergone a radical shift in policy. Renouncing its electoral pledges to make peace with the Marxist armies that control 60% of the countryside, the government has abandoned most of its social programs, reinstated an American-backed monetarist policy – the Pacto Social – and announced an offensive against the communist guerrillas and their bankers, the drug cartels.

The government's action has been a response to intense pressure from the United States. Considerable US leverage has been applied to end the government's 'experiment in Socialism by the back door', as one US Senator referred to it. International loans vital for economic reconstruction have been blocked, as have attempts to recertify Colombia as an 'Ally' for the first time since 1996. Decertification has caused severe harm to the nation's trade, with the loss of nearly a quarter of its \$6 billion business with the US, its major trading partner. With inflation at nearly 30% and the economy threatening to collapse, the newly elected liberal administration has been forced to clutch at straws.

In return for US aid for 'reconstruction' (most of which is earmarked for military operations against the drug cartels), a lifting of the US veto on IMF loans, and 'favoured status' within the 'Free Trade Area of the Americas' (FTAA), due to be established in 2005, the Colombian President has agreed to institute Washington-led monetary reform, the reintroduction of the 'special trading status' for US companies in Colombia, which had been rescinded since the election, and the start of a major offensive against the drug cartels.

Getting at the cartels has become an increasing problem in the past few years. The Marxist coalition, comprising Manuel Marulanda's Fuerzas Armadas Revolucionarias de Colombia (FARC), the Ejército de Liberación Nacional (ELN) and the Venezuelan-based Movimiento Bolivariano Revolucionario (MBR-200), now control over 60% of Colombia. They are united with re-formed cadres such as the Movimiento 19 de Abril (M-19), under a combined command known as the Coordinadora Guerrillera Simón Bolívar, or CGSB.

In many areas away from the major cities, there is no army or police presence any more. The guerrillas operate roadblocks to collect 'tolls' and 'taxes' and mount regular raids on Police and Guardia Nacional barracks. Supplied with Chinese- and North Korean-made weaponry via Venezuela, they also attack economic targets, such as the facilities of the state oil company, Ecopetrol.

Just as importantly, the Marxists protect the drug cartels who bankroll them. Though the CGSB coalition's ideological stance is ambivalent toward drugs, it has gravitated toward drug money and the production side of the business. The coca plant is a high-yield cash crop and for the peasantry it represents liberation from poverty. To the CGSB command, the anti-drugs crackdown is counter-revolutionary and prima facie evidence of American imperialism in the region.



The relationship between the drug barons and the guerrillas is mutually supportive. The beneficence of the drug lords toward the local populations (and their financial support for the guerrillas, estimated at more than \$275 million) has given them the status of popular folk heroes amongst the peasants and the revolutionary movement. Nearly a third of the guerrilla cadres work in farms and laboratories, producing cocaine and heroin.

For many outside observers the CGSB, and the dominant FARC faction, has become a political front for what is now little more than banditry. The increasing sideways movement of the revolutionaries into the production side of the drug business is proof of this; an activity that has earned them the sound-bite title of 'narco-guerrillas' in the US.

The American administration has handed a plan to the Colombian President entitled 'Plan Resplendor II'. This is an operation aimed directly at the Cali and re-formed Medellin cartels. Involving the Police, the Defence Ministry and the General Prosecutor, and backed by new presidential edicts rescinding habeas corpus for drug crimes and giving the courts wider discretion in the seizure and disposal of drug assets the operation will attack the drug lords and guerrillas on several fronts.

The military part of the plan orders the Colombian Army to recapture specific areas of guerrilla-held land, and garrison the towns there. From strongholds in the garrison towns, elite Police and Army units will strike at selected targets — particularly drug factories, coca fields, chemical supply routes and, of course, the compounds of the drug barons themselves.

Various interests within Washington have for some time been pressing for direct US military involvement in the anti-drug operation. Though few see the military as being any kind of solution to the problem of drug supply, some believe it is a means of making the Colombian regime directly dependant on US assistance, and establishing a permanent military presence in the region. Colombian security will be important to US oil and gas interests when the FTAA opens Colombia's huge natural resources to unrestrained exploitation within the next several years.

With this in mind, the US government has compelled the Colombian government to place Plan Resplendor II under the auspices of the United Nations International Narcotics Control Board. The UNINCB presence has allowed the President to deploy an official US military force from Southern Command, under a newly-passed UN Resolution, 7904. The American force, comprising three air-assault battalions and their supporting staff and security forces, have been ordered to support the Colombian operations from a combined command centre in Bogota.

The response of the CGSB coalition and the drug cartels to the deployment has been to "up the ante". For the ideologues, the US presence is an intolerable "invasion of Colombian sovereign soil". It is an "imperialist act" in support of the Bogota "counter-revolutionary regime". For once, the Marxists are in sympathy with populist right-wing elements in the cities, who correctly foresee the disastrous effects of long-term American intervention.

For the drug lords and their client paramilitary groups, tied as they are to specific locales and communities, the threat is more direct. They know that the Yankees are coming for them, and that they are outgunned.

For all of those associated with the drug trade, the American presence must be fought. Not always directly, but with terror and cunning. The consensus is that if the defenders can



prevail and sufficient casualties be inflicted on the US forces, they will, as in Somalia, be forced to withdraw. They take heart from the words of the incumbent US President, who once said that he wasn't prepared to allow "any more Vietnams".

To this end the guerrillas and the drug barons have begun to prepare for an offensive...

### **13.1.2 The Campaign Area**

The campaign depicts a small portion of Plan Resplendor II. Your Apache Team has been detailed to support the Colombian Army 1st Division and local police units in a series of operations against guerrilla, bandit and drug lord positions in the north of the country.

The operational area is the forested and hilly terrain around Turbo, Nueva Colonia and Apartado, sited in the Uraba region, Antioqui Department, some 230 clicks north of Medellin. The Medellin cartel, supported by the ELN, FARC, elements of Maoist groups and a powerful band of paramilitary bandits, run a number of coca plantations, laboratories and cocaine factories here. Access to Panama by 'plane is straightforward (if risky due to US AWACS coverage in the Canal Zone) and drug/weapon consignments are easy to ship along the coast into Venezuela.

Historically, the area around Apartado is one of the most violent regions of Colombia, the scene of repression against political and union activists, as well as armed actions by guerrillas and paramilitary gunmen. Since 1995 there has been a radical increase in violence and kidnappings, as well as the scene of several notorious looting incidents perpetrated by the Colombian Army. These days, the rural areas around the towns are reckoned to be solid ELN/FARC strongholds.

The area is also one of the few gaps remaining in the Pan-American highway. Much of the region is slated for development using US aid, and thousands of local peasants have been forcibly removed from their land by the Army to make way for the road building. FARC forces and the ELN have waged a campaign of terror to prevent the eviction, even to the point, in September 1996, of waging a pitched battle with Army and Air Force units over a roadblock on the northern road from Medellin.

The local population, who live in almost unimaginable poverty, are broadly sympathetic with the revolutionaries and the drug godfathers, despite the former's descent into banditry over the past few years.

## **13.2 Latvian Campaign Summary**

### **13.2.1 Background to the War**

The collapse of the Russo-Belarusian Union has plunged Eastern Europe, from the Black Sea to the Baltic, into war. The shooting war is already seven weeks old. On the 22nd September the Russian President ordered tanks and troops across the Belarus border. Two days later the Ukraine was drawn into the conflict when the Crimean autonomous region was occupied by Russian troops.

Untangling the root causes of the conflict is beyond the scope of this essay, but events began to accelerate in the summer, with the popular uprising against the Belarus President Alexandr Zhirasenka which climaxed in the barricade of the Belarus Supreme Soviet



(parliament) by supporters of the old parliament and the 1994 constitution. As the leaders of the outlawed opposition manned the concrete blocks and the barricades, united under the banner of the Citizen's Committee for the Protection of the Constitution, and as the tanks wavered before the crowds of human shields, unwilling to fire, the dictator Zhirasenka lost his grip on the country.

The rump parliament formed under the Zhirasenka's "illegal" 1996 constitution was the first to crack, with some twelve Agrarian and Communist party deputies opportunistically declaring support for the Citizen's Committee the moment the army's loyalty came into question. The crack became a flood, as nearly half the 110 deputies came over. However, the upper chamber stood firm, with most of the senators – appointees all – standing by the President.

The situation drifted toward anarchy. Not only was the army unwilling to break up the barricades and the 100,000-strong 'freedom' demonstrations near the besieged Oval Hall in Minsk, but they formed an unwitting barrier against the civil authorities. Police riot forces stood off uneasily, while the state-controlled media broke their ties with Zhirasenka and began to broadcast pictures of the stand-off. Once the media had slipped the leash, support for the opposition snowballed.

It's unclear what followed the four days in July, when the army and opposition faced each other at the Oval Hall. Zhirasenka appears to have ordered the army's Second Division to clear the barricades and assault the parliament building, now filled with protesting students and deputies. The army demurred, shocked at the intervention of the media and mindful of the consequences of an open attack on the demonstrators. The stand-off ended when General Martynov, commanding the Minsk Military District, declared the army neutral; apparently unwilling to open fire on the million people who flocked to the centre of Minsk at the peak of the protests on 12th July.

Delighted, the Citizen's Committee declared Zhirasenka's government illegal under the terms of the suppressed 1994 constitution and called for a convention to establish a new government. Zhirasenka tried to remain in Minsk to direct operations against the opposition, but the KGB appears to have convinced him to leave, unsure whether the Police or army could protect him any longer. Zhirasenka re-established his government in Borisov.

With just three senators and half the deputies declared for democratic reform, the Citizen's Committee, under their speaker Zianon Sarecki, formed an 'interim government' committed to a national referendum on democratic reform. They were also intent on undoing the Russo-Belarusian Union treaty, signed with Russia in 1996.

Russia's reaction to events was one of alarm. Moscow had never ceased to regard independent nations such as Belarus and Ukraine as anything other than states to be reincorporated into a union with Russia. Zhirasenka, a former communist, was a close friend of Moscow who had worked since 1994 to overthrow the national constitution and reintegrate Belarus within a "greater Slavic union". Since 1996 Belarus was a district of Russia in all but name and Zhirasenka was tipped as a future Russian president.

Now, Zhirasenka was screaming for aid from his allies. He had loaned dozens of strategic bases in Belarus to the Russian military and demanded the Russians come out of them and march on Minsk. Initially, the Russian President refused, aware that the West's response to such a blatant use of force would be hostile; but he changed his mind when the



Belarusians handed him the *casus belli* he required.

The Belarus army, finding the pretense of neutrality impossible, began to co-operate with the interim government in Minsk. A purge of Russian officers, led by General Martynov and other nationalist sympathisers, secured the army's loyalty. Worried by the presence of large Russian forces on Belarus soil, the army blockaded the Russian bases and demanded the Russians leave.

The Russian President countered with an all-out spin offensive, maintaining that the Russians occupied the bases legally under 25-year leases granted by the current government and that Belarus had been subject to a putsch by a small clique of anti-democratic nationalists (he didn't call them "Nazis", though the implication was plain). He claimed that the security of Russian subjects was threatened and there had already been reports of ethnic cleansing led by party factions of the interim government.

These were half-truths at best, but potent ones, and gained currency when five Russian bases near the Polish border capitulated in September due to lack of supplies. The Russian commander was permitted to truck his men back to Russia, pursued by catcalls from the blockading Belarusians.

By now, the interim government had an ally in Ukraine, which granted recognition in August. The Ukraine government considered itself sidelined by the West, which continued to pursue a Moscow-oriented foreign policy, but was delighted by events in Belarus, which had thrown off a finger of the Russian vice that had gripped the nation, north and south. With the Moscow ally Zhirasenska gone, their chief concern now was the with the Crimean region, which had shown every sign of desiring reintegration. With the Belarus army tied down blockading the Russian bases, the Ukraine offered the interim government a defensive military alliance and aid in covering their southern border. Gratefully, the Belarusians accepted.

It was the last straw for the Russians. Attempts to bring Belarus and the Ukraine to heel by calling in fuel debts failed. The Russian President's invasion order came three weeks later; it's objective to smash the Ukraine-Belarus axis. Under the pretext of protecting Russian nationals, an entire army was tasked to advance from the Belarus border to the Berezina river and beyond to Minsk, liberating Russian bases as it went. Meanwhile, a manoeuvre group was ordered to seize the Crimean peninsula on the pretext of "protecting ethnic Russians from Ukrainian retaliation".

### **13.2.2 The Russo-Belarus War**

The assault was not the cakewalk the Russians expected. Belarusian forces were swamped by the initial assaults, but groups of army and popular militia units, rallying to the interim government, managed to delay the Russian advance. Inertia, poor doctrine and limited fuel supplies slowed a Russian juggernaut that was no longer the irresistible force of the Brezhnev era. The Russian armies punched a huge salient from Orsha to the outskirts of Borisov, but on the Berezina river line they halted, bogged down by supplies and a sea of mud to delay the Russian advance in a series of fierce clashes along the main highways. Ukrainian army reinforcements, committed to a war they didn't expect to fight so soon, deployed to the south of the salient, which soon degenerated into a slogging match - a war of limited gains.



Assaults on the bases still within the Belarus lines soon resolved the issue of the trapped Russian armies. Most surrendered without a fight and quantities of arms and supplies passed to the heavily extended Belarus army and the militias. Meanwhile, another opportunity beckoned that sent the Belarus army driving westward. The Russian enclave at Kaliningrad, garrisoned by a division and a naval brigade, offered the Belarus-Ukrainian Alliance the chance of a Baltic supply port, and leverage on Russia. Supported by a sympathetic Lithuania, who offered transit and supply routes across the Neman river, two Belarusian divisions drove into the Kaliningrad district and invested the city.

### 13.2.3 The Current Situation

The Western response to the war has been one of containment and conciliation. the Organisation for Security and Cooperation in Europe (OSCE), led by America, has tried to bring Russia to the table with Allied representatives from Ukraine and the Belarus interim government, while including Zhirasenska's 'official' government in side discussions. Russia refuses to acknowledge the interim government, referring to them as 'insurgents', but has nevertheless provisionally accepted meetings at a conference in Madrid, Spain, between Russian officials and OSCE brokers.

NATO, which has links with all the combatant governments under the Partnership for Peace (PfP) agreement, has suspended joint operations with all three nations and Lithuania. Latvia, concerned over Russian aggression, has requested a NATO deterrent force to be deployed to her territory under the terms of the Partnership for Peace. The US has agreed, but under condition that the force is deployed to the west of the capital, Riga, so as to appease a bellicose Russia. An US airmobile division, supported by advance elements of the 24th Mechanized Division, has been deployed to the south and west of the Riga.

Meanwhile Russia has plans to relieve the siege of Kaliningrad by opening a new front. Latvia has refused Russian requests for passage to the Lithuanian border. Now, Russia is about to grant her own passage...



## 14 DESIGNER'S NOTES

"Volume of data does not equate to accuracy of game design." - Chris Perello

This is a brief note for experienced helicopter gamers.

At Simis and Mindscape we've worked diligently to create the most authentic Apache helicopter experience we can. However, the sheer complexity of modelling an aircraft as sophisticated as the Apache and the high-tech battlefield it fights over has caused us to make some compromises for the sake of playability and game speed.

We took a decision early in the game's development to make Team Apache as accessible to players as possible. To fight as an Apache commander you have to run a battle while throwing a fast, manoeuvrable weapons platform around twenty feet "off the deck". We wanted players to be able to master nap-of-earth flight and combat without having to wrestle with complex controls and buttons. In short, we wanted to focus the game on the challenge of leadership, combat flying and battle-management, rather than the dry, technical specifics of helicopter flight.

The most obvious area where you'll notice the game's design compromises are in the layout of the flight and systems controls. We've aimed, where possible, for simplicity. For instance, in the game we've combined the helicopter's collective control and its throttle controls into one, while most of the system controls have been boiled down to simple on/off switches or mode toggles. We deliberately selected mission- and combat-critical systems to model; we felt it was simply not necessary to recreate every 'bell and whistle' aboard the Apache. (In addition to which, there's not a PC keyboard in all creation big enough to handle every button and toggle function in an Apache cockpit!)

The most dramatic feature of the game is the intelligent automated co-pilot/gunner (CPG), which handles most of the weapon and target acquisition tasks, leaving you free to make the critical weapon selection and shoot/no shoot decisions. Also the powerful order functions, which allow you to command your helicopter team, are critical to achieving a victory.

We don't want to give out too many tips and hints on how to play Team Apache. Much of what you need to know is common-sense, or will be learned through experience. However, a few obvious things stand out:

Keep low in the target zone and make maximum use of terrain cover.

Use Bob-Up mode where possible to pop up from behind cover and fire.

Do not close unnecessarily on the enemy. You will have to go close-in to attack infantry (you can't see them until you're close-by) but against heavier opposition keep your distance and engage from maximum range.

Don't underestimate your enemies. Even an infantryman with a machine-gun can get lucky.

Use the Insert and Delete keys to select or retain targets.

If you get a missile call, start pumping chaff and flares for all you're worth.

Don't order your team to engage all targets unless the opposition is light - otherwise they might waste all their ammo on an unimportant target.

If things get hairy, remember the motto "when in doubt, BUG OUT!" Take your team out of danger before you take casualties.



# 15 APPENDIX ONE - RECOGNITION MANUAL

This appendix lists many of the units encountered in Team Apache.

## 15.1 Friendly Forces

### 15.1.1 Land Forces



#### M1 Abrams Tank MBT

Crew	4
Armament	1 x 105mm; 1x 7.62mmMG(Co-axial); 1 x 7.62mm MG (AA); 1 x 12.7mm MG(AA) 2 x 6 smoke grenade dischargers
Ammo	55 x 105mm; 1,000 x 12.7mm; 11,400 x 7.62mm
Length	7.918m (hull)
Width	3.653m
Height	2.885m
Max Road Speed	72.421km/h
Max Range	498km
Gradient	60%
Side Slope	40%
Armour	Classified
NBC System	Yes
Night Vision Equipment	Yes



#### M2 Bradley IFV

Crew	3 + 6
Armament	1 x 25mm cannon; 1 x 7.62mm MG (coaxial); 2 x TOW ATGW launcher; 2 x 4 smoke grenade dischargers
Ammo	900 x 25mm; 2,200 x 7.62mm; 7 x TOW ATGW
Length	6.55m
Width	3.61m
Height	2.565m
Max Road Speed	66km/h (7.2km/h water speed)
Max Range	483km
Gradient	60%
Side Slope	40%
Armour	Classified
NBC System	Yes
Night Vision Equipment	Yes





### M163 Vulcan SPAA Gun

Crew	4
Armament	1 x six-barrel 20mm Vulcan cannon
Ammo	2,280 x 20mm
Length	4.86m
Width	2.85m
Height	2.736m
Max Road Speed	68km/h
Max Range	483km
Gradient	60%
Side Slope	30%
Armour	38mm Aluminium
NBC System	None
Night Vision Equipment	Yes



### M48A1 Chaparral SAM

Crew	5
Armament	launcher with four Chaparral SAM
Ammo	8 Chaparrals in reserve
Length	6.06m
Width	2.69m
Height	2.68m
Max Road Speed	67.2km/h
Max Range	504km
Gradient	60%
Side Slope	30%
Armour	None
NBC System	None
Night Vision Equipment	Yes (driver only)





### M901 ITOW

Crew	4 or 5
Armament	1 x twin TOW ATGW launcher; 1 x 7.62mm MG; 2 x 4 smoke grenade dischargers
Ammo	2 + 10 TOW ATGW; 1,000 x 7.62mm
Length	4.83m
Width	2.686m
Height	3.35m
Max Road Speed	67.59km/h (5.8km/h water)
Max Range	483km
Gradient	60%
Side Slope	30%
Armour	38mm Aluminium
NBC System	None
Night Vision Equipment	Optional



### M101 105mm Field Gun

Crew	5
Armament	1 x 105mm howitzer; 1 x 12.7mm MG(AA)
Ammo	87 x 105mm; 500 x 12.7mm
Length	6.114m
Width	3.925m
Height	3.155m
Max Road Speed	56km/h (6.43km/h water)
Max Range	390km
Gradient	60%
Side Slope	30%
Armour	Classified
NBC System	None
Night Vision Equipment	Yes





### M109 155mm SP Arty

Crew	6
Armament	1 x 155mm howitzer; 1 x 12.7mm MG
Ammo	36 x 155mm; 500 x 12.7mm
Length	6.19m
Width	3.15m
Height	3.28m
Max Road Speed	56km/h
Max Range	349km
Gradient	60%
Side Slope	40%
Armour	Classified
NBC System	Optional
Night Vision Equipment	Optional



### M110 203mm SP Arty

Crew	5
Armament	1 x 203mm howitzer
Ammo	2 x 203mm
Length	7.467m
Width	3.149m
Height	2.93m
Max Road Speed	56km/h
Max Range	725km
Gradient	60%
Side Slope	30%
Armour	Classified
NBC System	None
Night Vision Equipment	Yes (driver only)





### MLRS Rocket Launcher

Data Classified



### Patriot SAM Launcher

Data Classified



### Leopard 2 MBT

Crew	4
Armament	1 x 105mm; 1 x 7.62mm MG (co-axial); 1 x 7.62mm MG (AA); 2 x 4 smoke dischargers
Ammo	60 x 105mm; 5,500 x 7.62mm
Length	7.09 (hull)
Width	3.25m
Height	2.613m
Max Road Speed	65km/h
Max Range	600km
Gradient	60%
Side Slope	30%
Armour	70mm Steel
NBC System	Yes
Night Vision Equipment	Yes





### Marder IFV

Crew	3 + 6
Armament	1 x 20mm Cannon; 1 x 7.62mm MG (coaxial); 1 x 6 smoke grenade dischargers
Ammo	1,250 x 20mm; 5,000 x 7.62mm
Length	6.79m
Width	3.24m
Height	2.985m
Max Road Speed	75km/h
Max Range	520km
Gradient	60%
Side Slope	30%
Armour	Classified
NBC System	Yes
Night Vision Equipment	Yes



### Roland SAM

Crew	3
Armament	1 launcher with 2 Roland SAMs; 1 x 4 smoke grenade dischargers
Ammo	10 Roland SAMs
Length	6.59m
Width	3.1m
Height	2.86m
Max Road Speed	65km/h
Max Range	500km
Gradient	60%
Side Slope	30%
Armour	80mm Steel
NBC System	Yes
Night Vision Equipment	Yes





### EE-3 Jararaca Scout Car

Crew	3
Armament	1 x 12.7mm MG
Ammo	1,000 x 12.7mm
Length	4.163m
Width	2.235m
Height	2.3m
Max Road Speed	100km/h
Max Range	700km
Gradient	60%
Side Slope	30%
Armour	Classified
NBC System	Optional
Night Vision Equipment	Optional



### EE-9 Cascavel Armoured Car

Crew	3
Armament	1 x 90mm; 1 x 7.62mm MG (coaxial); 1 x 7.62mm or 12.7mm MG (AA); 2 x 3 smoke dischargers
Ammo	44 x 90mm; 2,000 x 7.62mm
Length	5.2m
Width	2.64m
Height	2.68m
Max Road Speed	100km/h
Max Range	880km
Gradient	60%
Side Slope	30%
Armour	Classified
NBC System	None
Night Vision Equipment	Optional





### EE-11 Urutu APC

Crew	1 + 12
Armament	1 x 12.7mm MG; 2 x 2 smoke grenade dischargers
Ammo	1,000 x 12.7mm
Length	6.1m
Width	2.65m
Height	2.125m
Max Road Speed	105km/h (8km/h water)
Max Range	850km
Gradient	60%
Side Slope	30%
Armour	Classified
NBC System	Optional
Night Vision Equipment	Optional



### T-72 MBT

Crew	3
Armament	1 x 125mm; 1 x 7.62mm MG (coaxial); 1 x 12.7mm MG(AA)
Ammo	45 x 125mm; 2,000 x 7.62mm; 300 x 12.7mm
Length	6.95m
Width	4.75m
Height	2.37m
Max Road Speed	80km/h
Max Range	550km
Gradient	60%
Side Slope	40%
Armour	Classified
NBC System	Yes
Night Vision Equipment	Yes





### BMP-1 IFV

Crew	3 + 8
Armament	1 x 73mm; 1 x 7.62mm MG(coaxial); 1 x Sagger ATGW launcher
Ammo	40 x 73mm; 2,000 x 7.62mm; 1 + 4 Sagger ATGW
Length	6.74m
Width	2.94m
Height	2.15m
Max Road Speed	65km/h (7km/h water speed)
Max Range	600km
Gradient	60%
Side Slope	30%
Armour	33mm Steel
NBC System	Yes
Night Vision Equipment	Yes



## 15.1.2 Air Forces



### UH-60 Blackhawk

Length	15.3m
Wingspan	16.4m
Height	5.1m
Max Speed	296km/h
Range	592m
Armament	7.62mm or 12.7mm door guns



### UH-1 Huey

Length	17.6m
Wingspan	14.6m
Height	4.4m
Max Speed	204km/h
Range	511km
Armament	two machine guns in door, optional rockets and machine gun pods



### CH-47 Chinook

Length	15.5m
Wingspan	18.3m
Height	5.8m
Max Speed	285km/h
Range	1,136km
Armament	unarmed





### 500D Defender

Length	7m
Wingspan	8.1m
Height	2.6m
Max Speed	244km/h
Range	603km
Armament	TOW AT missiles; Stinger AAMs; 30mm cannon pods; 7.62mm machine gun pod; rockets



### A-10 Thunderbolt

Length	16.26m
Wingspan	17.53m
Height	4.47m
Max Speed	722km/h
Range	2,000km
Armament	1 x 30mm GAU-8/A seven-barrelled cannon; 11 hardpoints; 16,000lb warload; AGM 65A Maverick; wide range of bombs



### C-130 Hercules

Length	29.8m
Wingspan	40.4m
Height	11.7m
Max Speed	602km/h
Range	7,876km
Armament	unarmed





### F117

Length	20.08m
Wingspan	13.20m
Height	3.78m
Max Speed	1,040km/h (unconfirmed)
Range	1,112km(unconfirmed)
Armament	internal weapons bay; precision guided munitions



### F-15 Eagle

Length	19.43m
Wingspan	13.05m
Height	5.63m
Max Speed	Mach 2.3+
Range	4,631km
Armament	1 x 20mm M61A1 Vulcan cannon; 11 hardpoints; four AIM-7 Sparrow or AIM-120 AMRAAM; four AIM-9 Sidewinder



### F-16 Falcon

Length	15.03m
Wingspan	9.45m
Height	5.09m
Max Speed	Mach 2+
Range	2,642km
Armament	1 x 20mm M61A1 Vulcan cannon; 6 hardpoints, two wingtip rails, 12,000lb warload; AIM-7 Sparrow or AIM-120 AMRAAM; AIM-9 Sidewinder; 30 mm gun pod; AGM-65A; AGM-88 HARM; Harpoon; Penguin; LGBs; bombs; rockets



## 15.2 Enemy Forces

### 15.2.1 Ground Forces



#### BMP-2 IFV

Crew	3 + 7
Armament	1 x 30mm cannon; 1 x 7.62mm MG (coaxial); 1 x Spandrel ATGW launcher; 2 x 3 smoke grenade launchers
Ammo	500 x 30mm, 2,000 x 7.62mm, 4 x Spandrel ATGW
Length	6.735m
Width	3.15m
Height	2.45m
Max Road Speed	65km/h (7km/h water speed)
Max Range	600km
Gradient	60%
Side Slope	30%
Armour	Classified
NBC System	Yes
Night Vision Equipment	Yes



#### BMP-3 IFV

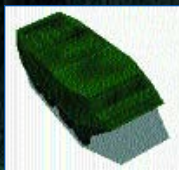
Crew	3 + 7
Armament	1 x 100mm; 1 x 30mm cannon (coaxial); 1 x 7.62mm (hull front, one either side); 2 x 3 smoke grenade dischargers; AT-10 ATGW launcher
Ammo	40 x 100mm; 400 x 30mm; 6,000 x 7.62mm; 6 x ATGW
Length	7.14m
Width	3.14m
Height	2.3m
Max Road Speed	70km/h (10km/h water speed)
Max Range	600km
Gradient	60%
Side Slope	30%
Armour	Classified
NBC System	Yes
Night Vision Equipment	Yes





### BTR60/70 APC

Crew	2 + 14
Armament	1 x 14.5mm MG (main); 1 x 7.62mm (coaxial)
Ammo	500 x 14.5mm; 2,000 x 7.62mm
Length	7.56m
Width	2.853m
Height	2.31m
Max Road Speed	80km/h (10km/h water)
Max Range	500km
Gradient	60%
Side Slope	40%
Armour	Steel, 7mm (turret) 9mm (Hull)
NBC System	Yes
Night Vision Equipment	Yes



### BTR80 APC

Crew	3 + 7
Armament	1 x 14.5mm MG; 1 x 7.62mm MG (coaxial); 6 smoke grenade dischargers
Ammo	500 x 14.5mm; 2,000 x 7.62mm
Length	7.65m
Width	2.9m
Height	2.35m
Max Road Speed	90km/h (9.5km/h water)
Max Range	600km
Gradient	60%
Side Slope	30%
Armour	Steel, 7mm (turret) 9mm (Hull)
NBC System	Yes
Night Vision Equipment	Yes





### BRDM2 with ATGW

Crew	2 or 3
Armament	Launcher with 6 Sagger ATGW
Ammo	14 Sagger ATGW (total)
Length	5.75m
Width	2.35m
Height	2.01m
Max Road Speed	100km/h (10km/h water)
Max Range	750km
Gradient	60%
Side Slope	30%
Armour	14mm Steel
NBC System	Yes
Night Vision Equipment	Yes (driver only)



### BRDM2 Scout

Crew	4
Armament	1 x 14.5mm MG (main); 1 x 7.62mm MG (coaxial)
Ammo	500 x 14.5mm; 2,000 x 7.62mm
Length	5.75m
Width	2.35m
Height	2.31m
Max Road Speed	100km/h (10km/h water)
Max Range	750km
Gradient	60%
Side Slope	30%
Armour	3-7mm Steel
NBC System	Yes
Night Vision Equipment	Yes





### T80 AFV

Crew	3
Armament	1 x 125mm gun/missile launcher; 1 x 7.62mm MG (coaxial); 1 x 12.7mm MG (AA); smoke grenade dischargers (number varies)
Ammo	36 x 125mm; 1,250 x 7.62 MG(coaxial); 300 x 12.7mm (AA); and 5 x AT-8 Songster ATGW
Length	7.4m
Width	3.4m
Height	2.2m
Max Road Speed	70km/h
Max Range	450km
Gradient	60%
Side Slope	40%
Armour	Classified
NBC System	Yes
Night Vision Equipment	Yes



### ZSU-23-4 SPAA

Crew	4
Armament	4 x 23mm cannon
Ammo	2,000 x 23mm
Length	6.54m
Width	2.95m
Height	3.8m
Max Road Speed	44km/h
Max Range	450km
Gradient	60%
Side Slope	30%
Armour	15mm Steel
NBC System	Yes
Night Vision Equipment	Yes





### 2S6 Tunguska SPAA

Crew	6
Armament	4 x 30mm; 8 x SA-19 SAM
Ammo	1,904 x 30mm; 8 x SA-19 SAM
Length	7.93m
Width	3.236m
Height	4.021m
Max Road Speed	65km/h
Max Range	500km
Gradient	60%
Side Slope	30%
Armour	Classified
NBC System	Yes
Night Vision Equipment	Yes



### SA-6 Gainful SAM

Crew	3
Armament	Launcher with three SA-6 SAM
Ammo	3 x SA-6 SAM
Length	7.389m
Width	3.18m
Height	3.45m
Max Road Speed	44km/h
Max Range	260km
Gradient	60%
Side Slope	30%
Armour	9.44mm Steel
NBC System	Yes
Night Vision Equipment	Yes





### SA-8 Gecko SAM

Crew	5
Armament	Launcher with six SA-8 SAM
Ammo	6 x SA-8 SAM
Length	9.14m
Width	2.8m
Height	4.2m
Max Road Speed	60km/h (8 km/h water)
Max Range	500km
Gradient	60%
Side Slope	30%
Armour	None
NBC System	Yes
Night Vision Equipment	Yes (driver only)



### SA-9 Gaskin SAM

Crew	3
Armament	Launcher with four SA-9 SAM
Ammo	6 x SA-9 SAM
Length	5.9m
Width	2.4m
Height	2.3m
Max Road Speed	100km/h (10km/h water)
Max Range	750km
Gradient	60%
Side Slope	30%
Armour	14mm Steel
NBC System	Yes
Night Vision Equipment	Yes





### SA-13 Gopher SAM

Crew	3
Armament	Launcher with four SA-13 SAM
Ammo	21 x SA-13 SAM
Length	6.6m
Width	2.85m
Height	3.8m
Max Road Speed	61.5km/h (6km/h water)
Max Range	500km
Gradient	605
Side Slope	30%
Armour	7mm Steel
NBC System	Yes
Night Vision Equipment	Yes



### 2S1 122mm SP Arty

Crew	4
Armament	1 x 122mm howitzer
Ammo	40 x 122mm
Length	7.26m
Width	2.85m
Height	2.732m
Max Road Speed	60km/h
Max Range	500km
Gradient	77%
Side Slope	55%
Armour	20mm Steel
NBC System	Yes
Night Vision Equipment	Yes





### 2S3 152mm SP Arty

Crew	4
Armament	1 x 152mm howitzer; 1 x 7.62mm MG (AA)
Ammo	46 x 152mm; 1,500 x 7.62mm
Length	7.765m
Width	3.25m
Height	3.05m
Max Road Speed	60km/h
Max Range	500km
Gradient	60%
Side Slope	30%
Armour	15mm (turret), 20mm (hull) Steel
NBC System	Yes
Night Vision Equipment	Yes



### 2S7 203mm SP Arty

Crew	4
Armament	1 x 203mm gun
Length	12.80m
Width	3.20m
Height	2.80m
Max Range	500km
Max Road Speed	50km/h
NBC System	Yes
Night Vision Equipment	No





### SS-1 SCUD Launcher

Crew	4
Armament	Launcher with one SCUD surface-to-surface rocket
Ammo	1 x SS-1C SCUD
Length	12.0m
Width	3.0m
Height	2.6m
Max Road Speed	70km/h
Max Range	550km
Gradient	30%
Armour	none
NBC System	No
Night Vision Equipment	Yes

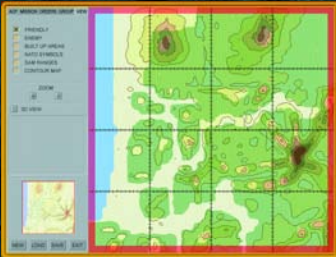


## 16 APPENDIX TWO - Mission Creator

One of the exciting features of Team Apache is that we provide you with a set of do-it-yourself tools to create your own missions! You can swap mission files with your friends and get them to play your custom-built missions.

### 16.1 Starting Mission Creator

Click the Mission Creator button on the Team Apache Set-up launcher to activate the Mission Creator. This will bring you to the Builder Screen.



If you click the New button, this will begin a new mission file. First, you will be asked to select a campaign area for your mission. When you've made your selection and clicked the Load button, a map of the area will appear on the Creator Screen. Now you can begin building your mission.

There are several steps to building a mission. These are: (1) setting ACPs; (2) setting groups; (3) setting enemy helicopters; (4) setting artillery support; (5) setting scores; (6) writing the briefing.

The Creator Screen is set out with a series of tabbed sheets to the left of the main map. These contain all the elements necessary to configure a custom combat mission. The tabbed sheets are as follows, ACP, MISSION, ORDERS, GROUP and VIEW.

#### 16.1.1 The View Menu

The view tab will allow you to look in detail at the map. By clicking the FRIENDLY, ENEMY, BUILT UP AREAS, NATO SYMBOLS and SAM RANGES buttons, you can toggle the symbols of these objects on and off.

The zoom buttons permit you to zoom in and out of the map. In addition, the + and - keys will zoom the view in and out. While zoomed, the cursor keys will scroll the view around. Alternatively, you may click on the small map at the bottom left to shift the zoomed view around.

### 16.2 Adding Items to The Mission

Right clicking the mouse on the map will bring up the Items to Add menu. The four items on the menu are: CREATE MISSION ACPs; PLACE ENEMY HELICOPTERS; CREATE GROUP OF UNITS; CREATE ARTILLERY GROUP. When creating groups and placing enemy helicopters, the units will appear in the mission at whatever location on the map you right-clicked on to bring up the menu. Note that some units are restricted in the areas they can be placed.



## 16.3 Creating Mission ACPs

When you select the Create Mission ACPs option you are asked to select an airbase on the map. Click on one of the indicated airbases; the mission will begin there. You will then be asked to select a base to end the mission at. In addition to your start point, you are initially given two ACPs - your first ACP and your landing point. By clicking on the ACP points and the plus icons in between, you can edit and/or create new ACP points, just as in the Mission Briefing Editor (see section 8.2.10). Note that only one ACP - your first - is classed as an Attack ACP. All the others are Transit ACPs except the final one, which is a Land ACP.

## 16.4 Creating Groups of Units

Key to mission building is creating groups. Groups are made up of a number of individual units. All the units in a group move together and obey the same orders. When you set a group, it will appear at whatever map location you right-clicked to bring up the Items to Add menu. There are two types of group: Normal groups and Artillery groups. The same procedure is used for both types of group; simply select the type of group from the Add Item menu.

### 16.4.1 Group Menu

When you select the Create Group of Units or Create Artillery Group option, a Group Menu appears. You can use this to set all the parameters of the group as follows:

**Name** - type in a name for the group. The maximum length is eight characters.

**Type** - this is the type of unit. It has no effect on the game other than the symbol used to identify the group. You may make a group any type you wish, regardless of its actual composition.

**Side** - use this to select whether the group is friendly or enemy. When you select the NATO icons on the map, the friendly units will be blue, the enemies red.

**Deployment** - this is the initial formation the units in the group will be deployed in. Some of the formations are defensive, some offensive. Select one appropriate to the group.

**Location** - this is given as an x-y co-ordinate value for the group on the map. If you wish to move the group at all, you can drag and drop it to an alternative location. Note the Mission Creator will stop you dropping the group on an inappropriate location, such as the sea. It was also stop you moving too near the edge of the map; you can only place units within the red boundary.

**Orientation** - this is the direction the group formation is facing. Select a compass heading from 0 to 359 degrees and input it here.

**Composition** - this determines the units in the group. Each group may have no more than ten units in it and must have a minimum of one unit. To select a unit, click a unit slot. This will bring up a series of menus.

The first menu will be the general unit type - this will always be Ground Units. If you place your cursor on this menu, it will bring up the unit class sub-menu: APCs, Infantry, Tanks etc. If you select one of these with your cursor, it will bring up the final menu, which will list each unit type (BMP2, M2, Marder, etc.) with their value in Victory Points (see 16.7.1).



When you make a selection from the final menu, the unit will be input into the slot. Selecting the slot again allows you to overwrite the existing unit if you wish. The clear button will clear all the slots and allow you to start over.

There's nothing preventing you having Russian and NATO vehicles mixing in the same group. The thing that determines their "loyalty" is the Side setting, above.

**Icon Colour** - if you have selected NATO icons, forces will always appear blue or red, depending on whether they are friendly or enemy. If you've selected the stylised icons, you can make them appear in different colours on the Creator Screen map. The alternative colours are purely for reference, so you can distinguish between groups even when they're clustered together.

**Appearance Probability** - this is the chance that the group will appear in the mission. The default setting is 100%, but setting at a lower percentage means there's a chance the group won't appear at all.

**Cycle Group** - you can use this button to cycle the menu through all the groups in the mission.

**Delete Group** - you can use this button to delete the currently selected group.

## 16.4.2 Order Menu

If you have a group selected, clicking the Orders tab will allow you to create or edit its orders.

Units cannot function without orders. If a unit is not given an order, it will receive a basic Halt order and do nothing if you try to fly the mission. The Team Apache behaviour system is very powerful, but relies on setting a number of simple orders for groups.

There are two types of order: basic orders and contingency orders. Basic orders are the group's primary orders, which they will follow from the beginning of the mission. All groups must have at least one basic order, even if it is to stand there and do nothing. Contingency orders are optional; these are orders triggered by other events. Contingency orders are classed as Enemy Close, Under Fire, Damage and Message, depending on the trigger. Order files for all of these are listed at the top of the order menu. Select one and you can input orders into the file.

The simple rule with orders is that you can string them together. The group will go through each order in turn, going onto the next order as soon as its finished. If there is no next order, the group will stop and do nothing. In the order files, groups will begin with the order at the top of the list and work their way down.

To insert a new order, left click on a space in the file, then click Insert. This will insert a new order at that point. You can edit an existing order by clicking Edit, or move it up or down the list by pressing Move Up or Move Down. Clicking Delete will remove the order entirely.

## 16.4.3 Basic Orders

This is the primary order file. The group will begin the mission performing these orders and will revert to them if contingency order triggers are no longer in effect. You may string together as many basic orders as you wish, but we recommend you place a Halt -1, Mobile



Defence or Defend order at the very end of the file.

When you insert an order, the order parameters will appear at the bottom of the Orders menu. The order will have a preset Name. It will also have a Type; you can change the type by clicking on the Type box and selecting a new order from the menu provided. Depending on the order you select, you may have to set some other parameters for the order.

A list of orders is as follows:

**Halt** - the units stop in place and do nothing; they don't even fire. If the Duration parameter is set at "-1", the group will immediately move onto the next order; if there is no next order they will stay halted indefinitely. If a positive value is input here, they group will halt for that number of seconds.

**Defend** - the units stop in place and fire at any enemy units that come near. Normally, a group ordered to Defend will move onto the next order, unless there is no next order, in which case they will defend indefinitely

**Mobile Defence** - this functions like a Defend order, except that when enemies are near, or when the group comes under fire, the individual units will begin to disperse and commence a fire-and-move manoeuvre.

**March** - the units will move to a location. While under march orders the units will move but not fire. This brings up a March [M] icon at the location you clicked on. This icon can be dragged and dropped around the map to change the location marched to.

The location can be set by clicking on the Location box then left-clicking on the map. You can select a formation to move in from the menu available from the formation box. You can set the orientation of the formation by inputting a compass value from 0 to 359 in the rotation box. When the group reaches the location and completes the order you can (and this is optional) have the group send a message. To do this just type in an eight-character message in the Message box.

**Advance** - this is set and functions exactly like a March order, except that units will fire at enemies in their range and line of sight. Advance locations are set like March locations, and are differentiated from marches by their Advance [A] icon. In addition, if enemies come close, or the group comes under fire, they will disperse their formation and commence a fire-and-move manoeuvre.

**Fire At** - this order is for artillery units only. This order will make artillery units launch a fire mission at a set location. Set the location of the artillery fire by clicking on the Location box then left-clicking on the map. This will place a Fire Mission icon on the map. This may be dragged around the map and dropped in new locations, as desired. However, only locations within the range of the artillery will be attacked. Set the Duration of the fire (in seconds) by inputting a value into the Duration box.

#### 16.4.4 Contingency Orders

Unlike basic orders, contingency orders are optional; groups are not required to have them. Contingency orders are order files that are triggered by events and override the current basic orders. Should the triggering event no longer apply, the orders will revert to the basic orders.



The four Contingency order files are organised at the top of the Order Menu. Some contingency order files have priority over others. If more than one contingency is triggered, the leftmost order file is the one that takes effect. You can change the priority of the files by clicking a file and then using the Priority buttons to move it around the list.

Orders are input into the contingency order files in exactly the same way as basic orders. The only difference is that the trigger conditions must be set at the top of the menu, as follows:

**Damage** - you must set the number of surviving units remaining in the group. If the group takes casualties and is reduced to this many survivors or less, the order file is triggered.

**Enemy Close** - you must set the range to the nearest enemy unit. If an enemy unit comes within this range, it will trigger the order file.

**Under Fire** - no trigger condition need be set for this file. It will be triggered if any member of the group comes under fire and is destroyed, damaged or suppressed.

**Message** - set a message in this file. If another group sends this message, the file will be triggered.

### 16.4.5 Copying and Pasting Groups

Once a group has been created, it can be duplicated by selecting the group (click the group's map icon to select) and then pressing the C key. The group is now 'copied'. If you now press the P key a duplicate group will be pasted on the map in the location the cursor occupies. A group may be duplicated any number of times; duplicated groups may be altered and edited like any other group.

## 16.5 Place Enemy Helicopters

Enemy attack helicopter groups are set in much the same way as regular groups. There are a few differences, however. You do not have to set the Type, Side, Deployment and Orientation parameters. Neither do you have to set orders. The enemy helicopters will simply patrol the location where you place them.

## 16.6 Setting Support

Artillery support for the player is expressed in terms of artillery strikes. Artillery strikes are the number of times you can call for artillery fire. Each strike has a number of salvos. This is the number of times artillery shells are fired in each strike.

Click on the Missions tab to set artillery strikes. This will bring up the support window, from where you can set the number of strikes, and the number of salvos for each strike.

## 16.7 Set Weapons Loads

After placing one or more enemy units, you may set the Apache weapons load for the mission from the Missions tab. Click on the appropriate box to select the load for all friendly Apaches in the mission.

## 16.8 Setting Scores

You may set a scoring system for your missions, to judge how well they have been completed.



### 16.8.1 The Missions Menu

Clicking on the Missions tab will bring up the Victory Conditions menu. This will list the total number of victory points for friendly and enemy units in the mission. Each unit in the mission has a set victory point score assigned to it. Victory points are accumulated for killing or disabling units. At the end of the mission the total points scored by the enemy are subtracted by the total points scored by your friendly units. The final victory result depends on this final total.

There are four victory results: Disaster, Failure, Success and Decisive Victory. A score equal to or above one of these threshold values will place it in that result category. You can alter these victory thresholds by clicking on the buttons provided. Note that you have to set 'Decisive Victory' points before the 'Success' points can be set, and so forth.

### 16.9 Setting Briefings

If you wish to write a briefing to your mission in a text editing system like Notepad or Wordpad, you can include that in the mission by clicking the Import Briefing button in the Mission menu. This will bring up a menu, which will allow you to search out your text file and then import it into the mission. If you have already included a briefing and wish to change it, importing a new file will overwrite any previous one. Note that you may only import .txt files; it will not accept any other kind of document.

### 16.10 Saving Team Apache Missions

As soon as you've created a set of Apache ACPs in a mission, you can save the mission at any time by clicking the Save button. This will bring up a save menu. Input a name up to eight characters long and click Save to save the mission. You can load up an existing mission to edit at any time by clicking the Load button. Select from the listed missions and click Load to load the mission into the builder.

When you have created and saved your mission, you can play it at any time by going to the Combat Missions screen of the main game and clicking the Load button. This will bring up a menu of missions for you to select and play.

If you wish, you can build missions and send them to your friends. Missions are saved as text-based .mef files in the directory /TeamApache/Creator. You can copy .mef files from this directory and save them onto floppy disc or send them as e-mail attachments. Alternatively, you can take missions built by your friends and paste them into your own /TeamApache/Creator directory.

**Have fun!**

### 16.11 Mission Creation Tips

Make sure to set either a Halt or Defend or Mobile Defence order at the end of each string of orders so that the group has something to do when it finishes its orders.

Be careful of filling the world with too many units on both sides. Unless you have a powerful computer, the AI search routines that control whether units sight each other may slow the game down. Better to have a few units on one side versus many units on the other.



Infantry in Team Apache don't fire on the move, so it's good to use contingency orders to make them defend if they get close to an enemy unit.

Because infantry and vehicles function differently, it's not a good idea to mix them together. If a mixed group is given an advance order, you may find that the vehicles are firing but the infantry are not. Unless you give the group contingency orders to defend if enemies are near, the infantry won't fire.

Artillery units will concentrate fire on a very localised area. When setting Fire At orders, try to set several such orders at different locations around the target area to ensure the best coverage.





## 17 APPENDIX THREE - CONNECTING MULTIPLAYER GAMES

Team Apache supports multi-player play using the DirectPlay feature of DirectX. You can play across a Local Area Network (LAN) via an IPX/SPX connection. Or you can play across the Internet using TCP/IP.

With a LAN connection, all games that are taking place across the network will appear to all players connected to the network. Any player can host a game or join a game using the procedure described in section 8.4.

With an internet connection the Master computer must ensure all the players on the Slave computers have the host's IP address. To join, the Slaves must set their Network connection to TCP/IP on the Network Screen. This will bring up a dialogue box in which the host's IP address can be typed. Type the address and press Enter to make the connection. If the host has a session in progress, this will appear on the Slave's computer screens.

**Warning:** Co-operative missions may run slowly in Internet play unless you have a high-speed connection.



# 18 APPENDIX FOUR - NATO SYMBOLOGY KEY



1 \_ Infantry



2 \_ Armour



3 \_ Mechanized



4 \_ Armoured Cavalry/Scout Recon



5 \_ Special Forces



6 \_ Engineer



7 \_ Wheeled Infantry



8 \_ Transport



9 \_ Artillery



10 \_ Self-Propelled Artillery



11 \_ Aviation



12 \_ Rotary-Wing Aviation



13 \_ Marines



14 \_ Paratroops



15 \_ Radar



16 \_ Anti-Aircraft



17 \_ Headquarters



18 \_ Rocket Artillery



19 \_ Logistics/FARP



20 \_ Airmobile Infantry



21 \_ Alpine Infantry



## 19 APPENDIX FIVE - GLOSSARY

- AAA** \_ Anti-Aircraft Artillery.
- AAM** \_ Air-to-Air Missile.
- AFV** \_ Armoured Fighting Vehicle. Broadly, this describes any armoured combat vehicle, but is most often applied to tanks.
- Airframe** \_ basic structure of an aircraft (cabin, doors, landing gear, etc).
- APC** \_ Armoured personnel carrier. Armoured infantry vehicle with light armament.
- Arty** \_ artillery.
- ATAS** \_ Air-To-Air-Stinger.
- ATGM** \_ Anti-Tank Guided Missile
- Autorotation** \_ when a helicopters' engines are off, wind passing through the rotors causes them to rotate without being supplied with power. This effect exerts lift on the aircraft and can be used in making an unpowered emergency landing.
- Bn** \_ battalion. A military formation larger than a company but smaller than a brigade.
- Bde** \_ brigade. A military formation larger than a battalion but smaller than a division.
- Chaff** \_ tiny filaments or metal strips that the Apache can release to reflect and scatter signals from radar-guided weapons.
- Collective** \_ control used to alter the pitch of all a helicopter's rotor blades collectively.
- Coy** \_ company. A military unit larger than a platoon but smaller than a battalion. A US aviation company team consists of a number of helicopters (6 for an Apache team), their aircrew and ground staff.
- CPG** \_ Co-Pilot/Gunner. The CPG occupies the front seat of an Apache and operates the weapon systems.
- CSAR** \_ Combat Search And Rescue.
- Cyclic** \_ a cockpit control used to alter the pitch of individual rotor blades so as to control direction and speed.
- Div** \_ division. A military formation larger than a brigade but smaller than a corps.
- Drag** \_ a force that acts against an object in motion through the air
- ECM** \_ Electronic Counter Measures.
- FEBA** \_ Forward Edge of Battle Area. The forward line of one's own forces.
- Free Fire Area** \_ area of the battlefield free of friendly forces into which any weapon can fire.
- FFAR** \_ Folding Fin Aerial Rocket.
- Flare** \_ a pyrotechnic device designed to act as a decoy to infrared missile seekers.
- Frag Order** \_ fragmentary order. A summary of a mission order.
- Ground Effect** \_ a cushion of air which occurs when a helicopter hovers at low altitude.
- Gunship** \_ colloquial name for an armed helicopter dedicated to the attack or support role.



- HE** \_ High Explosive.
- HQ** \_ Headquarters
- IFV** \_ Infantry Fighting Vehicle. An armoured personnel carrier mounting heavy armament.
- IHADSS** \_ Integrated Helmet and Display Sight System. A helmet with integrated sighting display, worn both by the pilot and co-pilot/gunner of the AH-64 Apache.
- IR** \_ infrared.
- Jammer** \_ jammers produce infrared or radio signals designed to baffle guided weapon systems.
- Klick** \_ colloquial term for kilometre
- Knot** \_ measurement of speed. Knots are measured in nautical miles per hour. A knot is approximately 1.1 mph
- L** \_ local time.
- LOC** \_ Line Of Communication.
- LZ** \_ Landing Zone. Designated landing zone for helicopter units.
- MBT** \_ Main Battle Tank.
- MPSM** \_ Multi-Purpose Submunition. A Hydra rocket warhead comprising nine submunition grenades.
- MSR** \_ Main Supply Route.
- Mtr** \_ mortar. Infantry-portable light artillery.
- NOE** \_ Nap Of Earth. Very low level flight, using terrain for cover.
- Pitch Pull** \_ an order to increase pitch on a helicopter so that it will lift off the ground.
- PNVS** \_ Pilot Night Vision Sensor. Infrared sensor to aid flying at night.
- RWR** \_ Radar Warning Receiver. A warning system that detects the bearing, range and type of enemy radar, and radar-guided weapon systems.
- SAM** \_ Surface to Air Missile.
- TADS** \_ Target Acquisition and Designation System. Turreted sensor used to lock onto targets and designate them with a laser.
- Torque** \_ the rotational force being exerted on the main rotor shaft.
- Zulu** \_ Greenwich Mean Time.



## 20 APPENDIX SIX - SUMMARY OF ALL KEYS AND FUNCTIONS

### 20.1 Flight Controls

#### 20.1.1 Engines and Collective

- E \_ Starts engines
- + \_ Increases collective
- \_ Decreases collective

#### 20.1.2 Tail Rotors

- < \_ Yaw left
- > \_ Yaw right

#### 20.1.3 Cyclic

- 8 \_ Forward (number pad)
- 4 \_ Left (number pad)
- 6 \_ Right (number pad)
- 2 \_ Backward (number pad)

#### 20.1.4 Advanced Flight Controls

- A \_ Enter Autopilot
- H \_ Enter Bob Up
- Tab \_ Exit Autopilot or Bob Up

#### 20.1.5 Navigation Controls

- Home \_ Advance ACP
- End \_ Previous ACP
- CTRL+HOME \_ Go to final ACP

### 20.2 Weapons Controls

#### 20.2.1 Basic Weapon Controls

- M \_ Master Arm
- Space \_ Fire weapon
- Backspace \_ Cycle weapons

#### 20.2.2 CPG Controls

- Insert \_ CPG to track next target
- Delete \_ CPG to remain tracking current target



### 20.2.3 Weapon Controls

- J** \_ Cycle gun/rocket burst/salvo setting up
- K** \_ Cycle gun/rocket burst/salvo setting down
- G** \_ change Hellfire missile mode

### 20.2.4 Artillery Controls

- U** \_ Register the ground co-ordinates in your pilot's sight
- Shift+U** \_ Order Artillery attack at registered co-ordinate

## 20.3 Camera Controls

- F1** \_ Cockpit view with IHADSS
- F2** \_ Cycles through 2D, 3D and full screen cockpits
- F3** \_ Chase camera
- F4** \_ Wing view camera (press again to swap between right and left wing cameras)
- F5** \_ Pole camera
- F6** \_ Controllable drop camera
- F7** \_ Fly-by camera
- F8** \_ Friendly camera view
- F9** \_ Enemy camera view
- F11** \_ Missile chase view
- F12** \_ In-Flight map
- Ctrl+I** \_ Infrared toggle for external camera views
- PgUp** \_ Zoom in (only works in when in F5, F8 & F9 cameras, or HUD radar mode.)
- PgDn** \_ Zoom out (only works in when in F5, F8 & F9 cameras, or HUD radar mode.)
- left** \_ look left
- right** \_ look right
- up** \_ look up
- down** \_ look down
- Shift+left** \_ snap view left
- Shift+right** \_ snap view right
- 0 (numpad)** \_ centre view

Cursor keys will rotate the camera around when in F5, F6, F8 and F9 views. Control up and control down will move the camera up and down in F6 view.



## 20.4 Other Controls

### 20.4.1 Cockpit Controls

- D** \_ Look down cockpit
- V** \_ Cockpit light toggle
- Shift+V** \_ Increase cockpit light intensity
- Ctrl+V** \_ Decrease cockpit light intensity
- Ctrl+L** \_ Toggle navigation lights (turns on navigation lights)
- Ctrl+H** \_ Increase IHADSS brightness
- Shift+H** \_ Decrease IHADSS brightness
- I** \_ Toggle infrared sensors
- PgUp** \_ Magnify cockpit infrared view
- PgDn** \_ Zoom out cockpit infrared view

### 20.4.2 Countermeasures Controls

- C** \_ Dispense Chaff
- F** \_ Dispense Flares

### 20.4.3 Miscellaneous Controls

- Z** \_ Emergency hydraulics
- P** \_ Pause
- O** \_ Options Screen
- Ctrl+G** \_ Screen Grab
- Escape** \_ End mission

### 20.4.4 Network Controls

- Shift+S** \_ Score toggle
- Shift+M** \_ Activate network message
- Shift+T** \_ Activate team message
- Shift+#** \_ Send preset message # 1, 2, 3... 0



## 20.5 Team Flying and SOPs

- X** \_ Alpha channel
- 1** \_ Channel 1
- 2** \_ Channel 2
- 3** \_ Channel 3
- 4** \_ Engage threat
- 5** \_ Engage primary target
- 6** \_ Engage target of opportunity
- 7** \_ Engage all targets
- 8** \_ Bypass and suppress targets
- 9** \_ Ignore non-threat targets
- 0** \_ Wingman form on me
- T** \_ Engage my target
- W** \_ Wait
- L** \_ You are now lead pair
- R** \_ Location request
- Ctrl+R** \_ Location request for rescue helicopter
- S** \_ Status request
- B** \_ Follow mission briefing
- Home** \_ Go to next ACP
- End** \_ Go to previous ACP
- Ctrl+Home** \_ Go to final ACP
- Ctrl+1** \_ Backup team 1
- Ctrl+2** \_ Backup team 2
- Ctrl+3** \_ Backup team 3
- Enter** \_ Briefed SOPs formation
  - [** \_ Alternate formation 1
  - ]** \_ Alternate formation 2



## CREDITS

## Simis

Team Leader	Adonis Stevenson
Lead Programmer	Richard Mackie
Programmers	Tom Beckman, Robin Carlisle, Adrian Hawkins, Kingsley Pratt, Rhona Robson, Phil Rutherford, Dr. Glyn Scragg
Lead Artist	Adonis Stevenson
Artists	George Grimshaw, Andy Wood
Lead Games Designer	Lee Brimmicombe-Wood
Games Designers	Richard "Maddog" Collins, Chris Roberts
Intro Animation and Cut Scenes	George Grimshaw
Post Production and Sound	Paul James
Original Concept	Bryan Walker
Terrain System	Stephen Birch
Engine Development	Simon Anthony, Stephen Birch, Robin Bryce, Simon Clay, Ed Daly, Jules Davis
Simis Test Team	Graham Dickson, Andrew Furber, Steve Masters, David Murphy, Mark White, Mick Wood
Support Work	James Brooksby, Richard Carter, Richard "Maddog" Collins, Tim Fawcett, Martin Issit, Paul Mottram
Voice Actors	Brad Lavelle, Alan Marriote, Gary Martin, Steve Masters, Joanne Miseldene, Eric Myers, Glen Wrage
Producers	Gabriella Diffley, Carl Jones
Production Director	Ian Baverstock
Vice President R&D	Jonathan Newth



## Mindscape

Executive Producer	David Bishop
Producer	Neil Soane
Associate Producer	Richard Plumb
Developer Liaison Administrator	Juliet Pitt
Product Manager	James Scalpello
PR Manager	Paul Kluge
Graphic Design Manager	Bill Duncan
Graphic Design	Steve Longdale
Localisation Manager	Patrick Baroni
Creative Services Manager	Maria Fernandez
QA Manager	Mark Hilton
QA lead tester	Martin Newing
QA testers	Derek Holt, Marcus Starnes, Iain White, Ashley Powell, Adrian Wood-Jones
External Test Co-ordinator	Marek "Headcase" Paul
External Beta Team	Matt "Wags" Wagner, Nigel "Pieman" Wright, Robert "Trakdah" Borjesson, Mike "Belter" Bakke, Leonardo "Apollo11" Rogic, Bill "Rebel" Moffat, Mark "Stinger" Shephard



## TROUBLESHOOTING

Before contacting Technical Support please refer to the 'D:\HELP.HLP' file included on the program CD. This file details useful Trouble Shooting Tips together with notes relating to any late changes made to the program. To view the file please follow the instructions below.

Insert the CD into your CD ROM drive (Cancel/Close any AutoRun screen that may appear). Click on the 'START' button (normally on the bottom left of your screen) followed by 'RUN...'. At the prompt type D:\HELP.HLP and click OK. (D should be replaced by your CD ROM drive letter)

## TECHNICAL SUPPORT

Should you experience any technical problems with this software, such as it failing to operate, please contact our Technical Services Department:

Address: Technical Services,  
The Learning Company (UK)Ltd,  
POBox 121, Crawley RH11 9YP, England.

Telephone: From inside the UK: 0870 741 6821  
From outside the UK: +44 (0) 870 741 6821

Fax: From inside the UK: 0870 741 6822  
From outside the UK: +44 (0) 870 741 6822

E-Mail: [Uktechsupport@mindscape.com](mailto:Uktechsupport@mindscape.com)

Hours of business: 09:30 to 13:00hrs and 14:00 to 16:30hrs Monday to Friday

We regret that we cannot offer game hints and tips, as the service is provided for technical difficulties only.



[www.team-apache.com](http://www.team-apache.com)



Priority House, Charles Avenue,  
Maltings Park, Burgess Hill,  
West Sussex, RH15 9TQ.

Telephone: 01444 246333. Fax: 01444 248996



©1998 SIMIS Holdings. All rights reserved. TEAM APACHE is a trademark of SIMIS Holdings.

MU260481